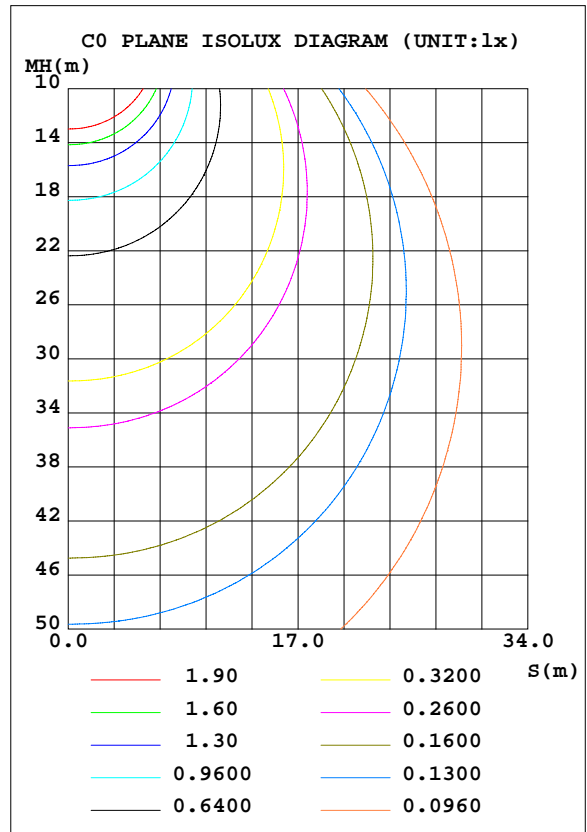
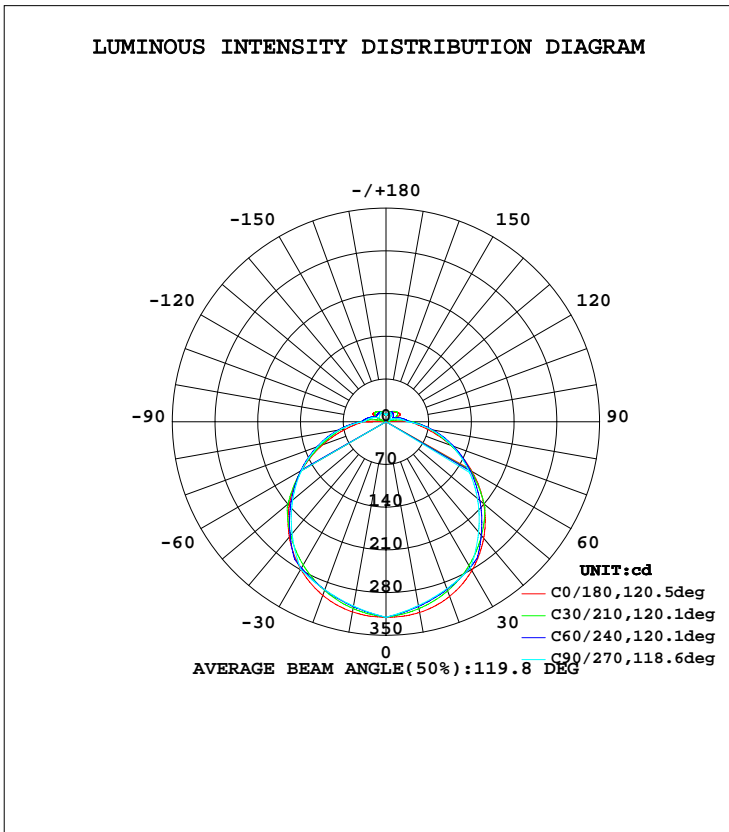


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 68.60 lm/W			
MODEL	83757, 83758	I <sub>max</sub> (cd)	320.4	S/MH(C0/180)	1.29
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)		TOTAL FLUX(lm)	1172.5	η UP, DN(C0-180)	5.2, 44.2
NOMINAL FLUX(lm)	1172.55	CIE CLASS	SEMI-D.	η UP, DN(C180-360)	5.7, 44.9
LAMPS INSIDE	1	η up(%)	10.9	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)		η down(%)	89.1	CIBSE SHR MAX	1.50



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum,lamp
5	319.8	315.0	313.1	314.6	319.5	315.0	313.5	315.3	0- 5	7.582	7.582	0.65,0.65
10	317.2	308.8	305.8	308.3	316.4	308.9	306.7	309.5	5- 10	22.35	29.93	2.55,2.55
15	312.4	301.6	298.5	300.7	310.9	301.6	299.8	302.6	10- 15	36.32	66.25	5.65,5.65
20	304.6	293.2	291.2	292.0	302.8	293.2	293.0	294.5	15- 20	49.23	115.5	9.85,9.85
25	294.4	283.8	284.0	282.4	292.1	283.8	286.1	285.5	20- 25	60.84	176.3	15,15
30	281.4	273.4	276.7	271.7	279.0	273.5	279.3	275.4	25- 30	70.93	247.3	21.1,21.1
35	266.2	262.1	256.4	260.5	263.9	262.4	259.4	264.6	30- 35	78.96	326.2	27.8,27.8
40	249.0	248.8	236.1	246.9	246.4	249.2	239.5	251.5	35- 40	84.02	410.2	35,35
45	229.9	226.4	215.8	224.4	227.1	227.1	219.5	229.4	40- 45	86.39	496.6	42.4,42.4
50	208.9	204.0	195.6	201.9	206.1	204.8	199.6	207.1	45- 50	86.20	582.8	49.7,49.7
55	186.6	181.4	175.3	179.4	183.7	182.6	179.7	185.0	50- 55	83.63	666.4	56.8,56.8
60	162.8	159.3	155.0	157.3	160.0	160.7	159.8	163.1	55- 60	78.89	745.3	63.6,63.6
65	138.2	137.5	135.0	135.5	135.5	139.2	139.3	141.6	60- 65	72.28	817.6	69.7,69.7
70	113.3	116.7	115.0	114.8	110.7	118.5	118.7	120.8	65- 70	64.14	881.8	75.2,75.2
75	89.24	97.33	94.96	95.77	86.79	98.99	98.13	101.0	70- 75	55.01	936.8	79.9,79.9
80	67.85	78.75	74.94	77.57	65.72	80.17	77.57	81.78	75- 80	45.44	982.2	83.8,83.8
85	50.77	60.80	54.93	59.91	49.08	61.88	57.00	63.10	80- 85	35.90	1018	86.8,86.8
90	38.76	43.05	34.92	42.51	22.02	43.86	36.44	44.69	85- 90	26.37	1044	89.1,89.1
95	8.593	36.93	29.87	35.42	5.261	37.19	32.48	39.05	90- 95	19.20	1064	90.7,90.7
100	3.897	30.78	24.82	28.69	3.806	31.07	28.52	33.41	95-100	14.93	1079	92,92
105	1.883	24.78	19.77	22.69	2.822	25.95	24.56	27.82	100-105	11.24	1090	92.9,92.9
110	9.209	19.09	14.72	17.49	2.515	21.63	20.61	22.28	105-110	8.548	1098	93.7,93.7
115	24.75	17.45	9.677	16.30	14.34	19.99	16.65	20.18	110-115	8.152	1107	94.4,94.4
120	25.56	18.59	4.629	17.76	25.08	20.63	12.69	20.84	115-120	8.531	1115	95.1,95.1
125	25.03	19.45	6.725	19.05	25.06	21.11	13.41	21.31	120-125	8.649	1124	95.8,95.8
130	23.91	20.36	8.821	20.16	24.06	21.41	14.13	21.60	125-130	8.416	1132	96.6,96.6
135	22.63	21.12	10.92	20.88	22.77	21.42	14.86	21.76	130-135	7.923	1140	97.2,97.2
140	21.27	21.82	13.01	21.59	21.46	21.05	15.58	21.71	135-140	7.277	1147	97.8,97.8
145	19.86	20.77	15.11	20.65	20.04	20.31	16.30	20.55	140-145	6.502	1154	98.4,98.4
150	18.36	19.34	17.21	19.41	18.57	19.03	17.02	19.32	145-150	5.599	1159	98.9,98.9
155	17.04	17.69	16.19	17.79	17.25	17.43	16.02	17.78	150-155	4.533	1164	99.3,99.3
160	15.78	15.92	15.17	15.81	15.79	15.59	15.01	15.72	155-160	3.454	1167	99.6,99.6
165	13.46	14.06	14.15	13.96	13.27	13.91	14.00	13.79	160-165	2.437	1170	99.8,99.8
170	11.61	12.51	13.14	12.47	11.46	12.26	12.99	12.21	165-170	1.562	1171	99.9,99.9
175	11.05	11.81	12.12	11.79	10.76	11.54	11.98	11.58	170-175	0.8584	1172	100,100
180	11.10	11.10	11.10	11.10	10.98	10.98	10.98	10.98	175-180	0.2733	1173	100,100
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

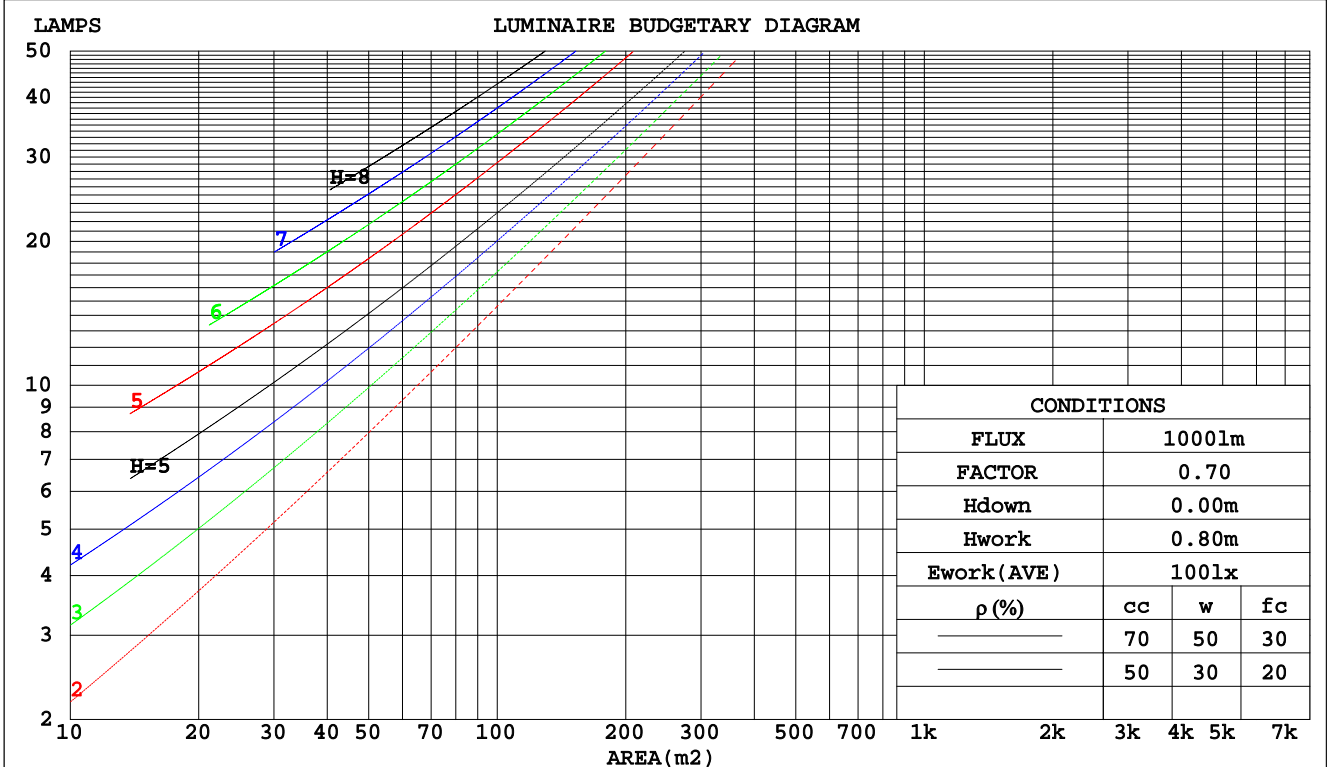
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio      Coefficients of Utilization(CU)															
0.0	1.16	1.16	1.16	1.12	1.12	1.12	1.05	1.05	1.05	.98	.98	.98	.92	.92	.92	.89
1.0	.99	.94	.89	.95	.91	.87	.89	.86	.82	.83	.80	.78	.78	.76	.74	.71
2.0	.85	.78	.71	.82	.75	.70	.77	.71	.66	.72	.67	.63	.67	.64	.60	.57
3.0	.74	.66	.59	.72	.64	.57	.67	.60	.55	.63	.57	.53	.59	.54	.50	.48
4.0	.65	.56	.49	.63	.55	.48	.59	.52	.46	.56	.50	.45	.52	.47	.43	.40
5.0	.58	.49	.42	.56	.48	.41	.53	.45	.40	.50	.43	.38	.47	.41	.37	.34
6.0	.52	.43	.36	.51	.42	.36	.48	.40	.35	.45	.38	.33	.42	.37	.32	.30
7.0	.47	.38	.32	.46	.37	.31	.43	.36	.30	.41	.34	.29	.39	.33	.29	.26
8.0	.43	.34	.28	.42	.34	.28	.40	.32	.27	.37	.31	.26	.35	.30	.25	.23
9.0	.39	.31	.25	.38	.30	.25	.36	.29	.24	.34	.28	.24	.33	.27	.23	.21
10.0	.36	.28	.23	.35	.28	.23	.34	.27	.22	.32	.26	.21	.30	.25	.21	.19



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity: 65.0%  
 Test Distance: 9.646m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm														
NAME:					TYPE:					WEIGHT:				
SPEC.:					DIM.:					SERIAL No.:				
MFR.: P.Q.L., Inc.					SUR.:					PROTECTION ANGLE:				

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.356	.202	.064	.345	.197	.063	.326	.187	.060	.308	.177	.057	.291	.169	.054	
2.0	.317	.174	.053	.308	.170	.052	.290	.161	.050	.274	.154	.048	.259	.146	.046	
3.0	.286	.152	.046	.277	.149	.045	.262	.142	.043	.247	.135	.041	.233	.129	.040	
4.0	.260	.135	.040	.252	.132	.039	.238	.126	.038	.225	.121	.036	.212	.115	.035	
5.0	.238	.121	.035	.231	.118	.035	.218	.113	.033	.206	.109	.032	.195	.104	.031	
6.0	.219	.110	.031	.213	.107	.031	.201	.103	.030	.190	.099	.029	.180	.095	.028	
7.0	.202	.100	.028	.197	.098	.028	.186	.094	.027	.176	.090	.026	.167	.087	.025	
8.0	.188	.092	.026	.183	.090	.025	.173	.087	.025	.164	.083	.024	.156	.080	.023	
9.0	.176	.085	.024	.171	.083	.023	.162	.080	.023	.154	.077	.022	.146	.074	.021	
10.0	.165	.079	.022	.161	.078	.022	.152	.075	.021	.145	.072	.020	.137	.069	.020	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.274	.274	.274	.234	.234	.234	.160	.160	.160	.092	.092	.092	.029	.029	.029	
1.0	.267	.240	.215	.229	.206	.185	.157	.141	.128	.090	.082	.074	.029	.026	.024	
2.0	.260	.216	.179	.223	.186	.155	.153	.129	.108	.088	.075	.063	.028	.024	.021	
3.0	.252	.199	.157	.216	.172	.136	.149	.119	.095	.086	.070	.056	.028	.023	.018	
4.0	.245	.187	.142	.210	.161	.123	.144	.112	.087	.084	.066	.051	.027	.021	.017	
5.0	.237	.176	.132	.204	.153	.115	.140	.107	.081	.081	.063	.048	.026	.020	.016	
6.0	.230	.168	.124	.198	.146	.108	.136	.102	.077	.079	.060	.046	.026	.020	.015	
7.0	.223	.162	.119	.192	.140	.104	.132	.098	.073	.077	.058	.044	.025	.019	.014	
8.0	.216	.156	.115	.186	.135	.100	.129	.095	.071	.075	.056	.042	.024	.018	.014	
9.0	.210	.151	.111	.181	.131	.097	.125	.092	.069	.073	.054	.041	.024	.018	.014	
10.0	.204	.147	.109	.176	.128	.095	.122	.090	.067	.071	.053	.040	.023	.017	.013	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm										
NAME:					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: P.Q.L., Inc.					SUR.:			PROTECTION ANGLE:		
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	12.2	13.6	12.6	14.0	14.5	12.1	13.5	12.5	13.9	14.3
3H	14.0	15.3	14.5	15.8	16.2	14.0	15.3	14.5	15.8	16.2
4H	14.9	16.1	15.3	16.6	17.1	15.0	16.3	15.5	16.7	17.2
6H	15.7	16.9	16.2	17.3	17.9	16.0	17.2	16.5	17.6	18.1
8H	16.1	17.3	16.6	17.7	18.3	16.5	17.6	17.0	18.1	18.6
12H	16.6	17.7	17.1	18.2	18.7	17.0	18.1	17.5	18.6	19.1
4H 2H	12.9	14.1	13.3	14.6	15.0	12.8	14.0	13.2	14.5	15.0
3H	14.9	16.0	15.4	16.5	17.0	14.9	16.1	15.5	16.5	17.1
4H	15.9	16.9	16.4	17.4	18.0	16.1	17.1	16.6	17.6	18.2
6H	16.9	17.8	17.5	18.4	19.0	17.3	18.2	17.8	18.7	19.3
8H	17.4	18.3	18.0	18.8	19.4	17.8	18.7	18.4	19.2	19.8
12H	18.0	18.8	18.6	19.3	20.0	18.4	19.2	19.0	19.8	20.4
8H 4H	16.4	17.2	17.0	17.8	18.4	16.5	17.4	17.1	17.9	18.6
6H	17.7	18.4	18.3	19.0	19.6	18.0	18.7	18.6	19.3	19.9
8H	18.4	19.0	19.0	19.6	20.3	18.7	19.3	19.3	20.0	20.6
12H	19.1	19.7	19.8	20.3	21.0	19.5	20.1	20.2	20.7	21.4
12H 4H	16.5	17.2	17.1	17.8	18.5	16.6	17.4	17.2	18.0	18.6
6H	17.9	18.5	18.5	19.1	19.8	18.1	18.8	18.8	19.4	20.1
8H	18.7	19.2	19.3	19.8	20.6	19.0	19.5	19.6	20.2	20.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117 Corrected 1173 lm Total Lamp Luminous Flux.(8log(F/F0) = 0.6)

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	52	40	33	51	39	32	49	38	32	25
0.80	61	49	41	60	48	41	57	47	40	32
1.00	69	57	49	68	56	49	64	57	48	39
1.25	76	65	57	74	63	56	70	61	54	46
1.50	81	70	62	79	69	61	75	66	60	50
2.00	88	78	71	86	77	70	81	73	67	57
2.50	93	83	76	90	81	75	84	77	72	61
3.00	96	88	81	93	86	80	87	81	76	65
4.00	101	94	88	97	91	86	91	86	82	69
5.00	103	97	92	100	95	90	94	89	85	73
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

496.62 lm

%lum = 42.4%

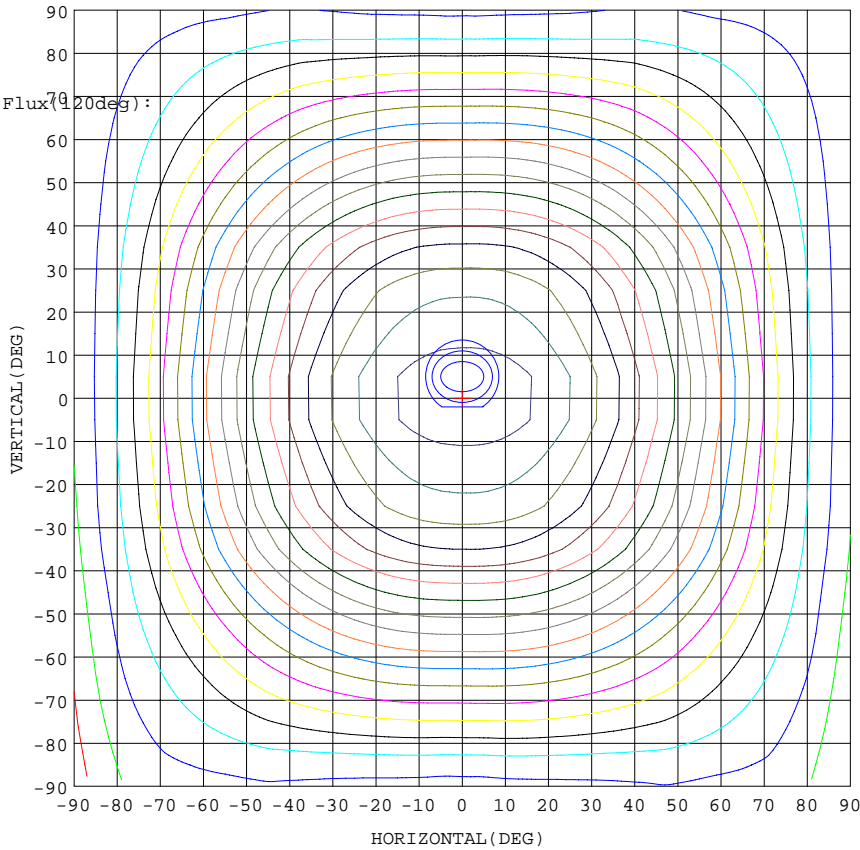
%lamp = 42.4%

Conical surface Flux(70deg):

745.34 lm

%lum = 63.6%

%lamp = 63.6%



- 5% 16.02
- 10% 32.04
- 15% 48.05
- 20% 64.07
- 25% 80.09
- 30% 96.11
- 35% 112.1
- 40% 128.1
- 45% 144.2
- 50% 160.2
- 55% 176.2
- 60% 192.2
- 65% 208.2
- 70% 224.2
- 75% 240.3
- 80% 256.3
- 85% 272.3
- 90% 288.3
- 95% 304.3

- 1. AVG=0, MIN=0
- 2. AVG=313.4, MIN=306.3
- 3. AVG=313.1, MIN=305.5

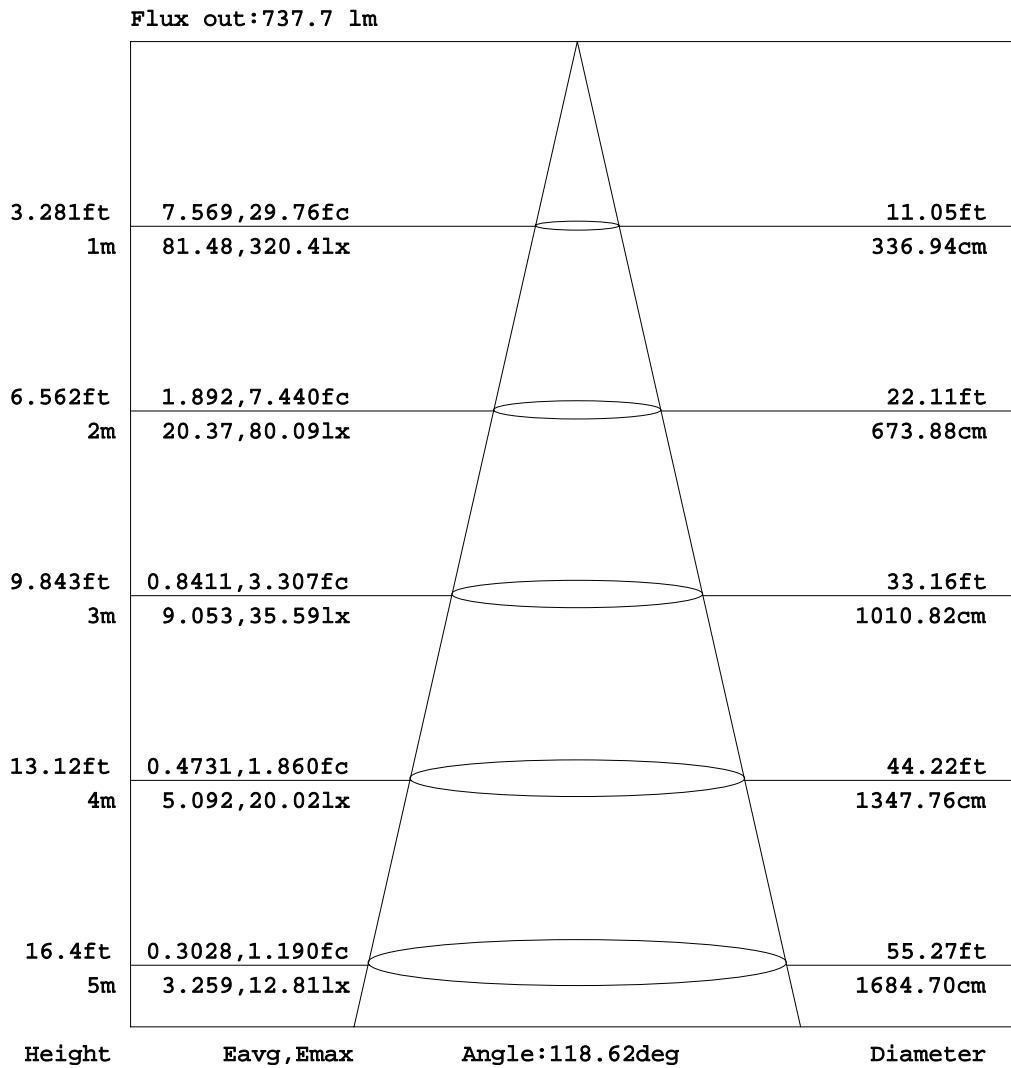
I<sub>max</sub>: 320.4 (H0.0, V0.0)  
 (At: C=0.0, Gamma=0.0)  
 UNIT: cd

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity: 65.0%  
 Test Distance: 9.646m [K=1.0000]  
 Remarks:

AAI Figure

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:



Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

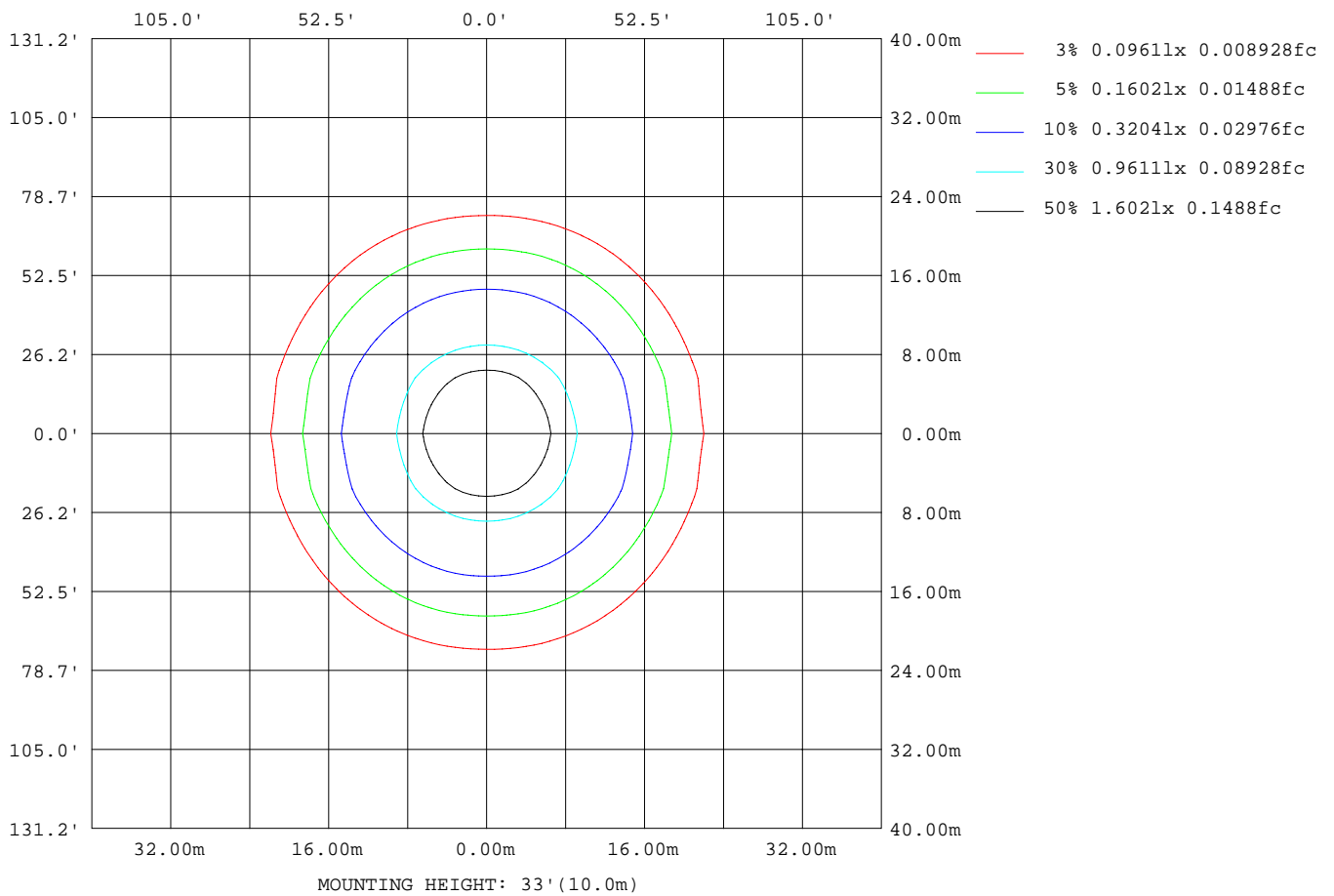
C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:



**ISOLUX DIAGRAM**

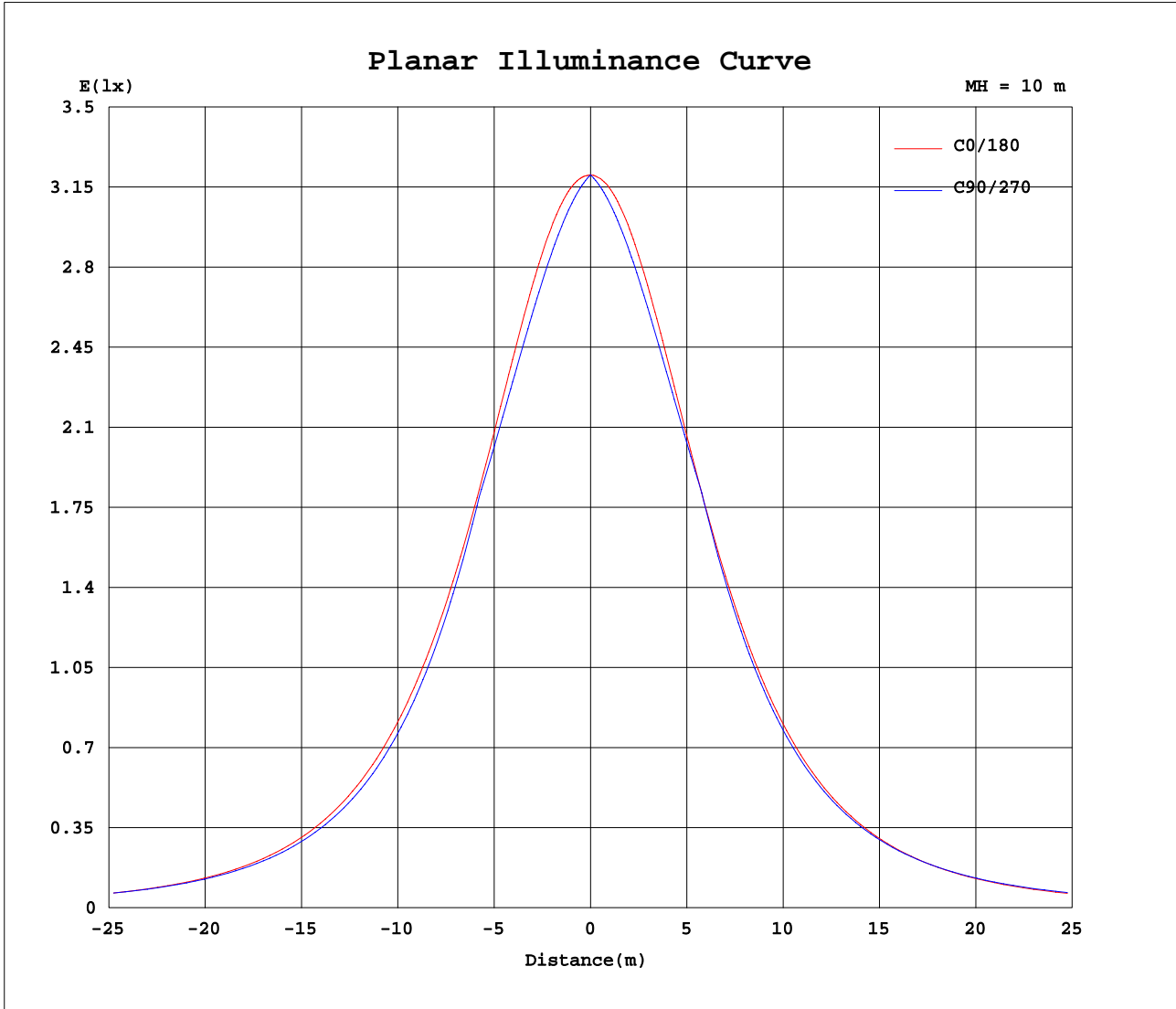
Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity: 65.0%  
 Test Distance: 9.646m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
0	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
5	320	319	319	318	317	317	316	316	315	315	315	314	314	314	313	313	313	313	313
10	317	316	315	314	313	312	311	310	309	309	308	308	307	307	306	306	306	306	306
15	312	311	309	307	306	305	304	303	302	302	301	300	300	300	299	299	299	299	299
20	305	302	300	299	297	296	295	294	294	293	293	293	292	292	292	292	291	291	291
25	294	292	289	287	286	285	284	284	284	284	284	284	284	284	284	284	284	284	284
30	281	278	276	274	273	272	272	272	273	273	274	275	276	276	277	277	277	277	277
35	266	263	260	259	258	258	258	259	261	262	264	265	264	262	260	259	258	257	256
40	249	245	243	241	241	242	244	246	248	249	247	245	243	241	240	239	237	237	236
45	230	226	224	223	223	225	228	231	229	226	225	223	222	221	219	218	217	216	216
50	209	205	203	203	205	208	210	207	205	204	203	202	201	200	199	198	197	196	196
55	187	182	181	182	185	187	185	183	182	181	181	180	180	179	179	178	177	176	175
60	163	159	158	160	164	162	160	160	159	159	159	159	159	159	158	157	156	156	155
65	138	135	135	139	138	136	136	136	137	137	138	138	138	138	138	137	136	136	135
70	113	110	112	113	113	113	113	114	116	117	117	118	118	118	118	117	116	115	115
75	89.2	87.3	89.5	89.2	89.9	90.9	92.6	94.6	96.4	97.3	97.7	97.9	97.9	97.7	97.4	97.0	96.3	95.4	95.0
80	67.8	67.5	68.0	69.1	70.6	72.9	75.1	76.9	78.4	78.7	78.6	78.2	77.9	77.7	77.3	76.9	76.3	75.3	74.9
85	50.8	49.0	50.9	53.1	55.7	57.4	58.9	60.1	61.0	60.8	59.8	58.9	58.2	57.7	57.2	56.8	56.2	55.2	54.9
90	38.8	23.0	32.5	38.9	42.4	43.1	43.6	43.9	44.0	43.0	41.1	39.6	38.4	37.7	37.1	36.7	36.2	35.1	34.9
95	8.59	8.73	20.6	30.7	33.2	31.4	30.3	33.2	36.2	36.9	35.7	34.6	33.7	33.0	32.3	31.8	31.1	30.0	29.9
100	3.90	6.38	14.4	23.0	22.2	18.2	17.1	23.5	29.1	30.8	30.3	29.6	28.9	28.2	27.5	26.8	26.0	24.9	24.8
105	1.88	3.90	5.96	13.2	14.8	7.27	6.30	15.7	23.2	24.8	25.0	24.7	24.1	23.4	22.6	21.8	20.9	19.9	19.8
110	9.21	7.97	9.44	15.2	16.7	10.8	10.8	14.0	18.1	19.1	19.8	19.8	19.2	18.5	17.7	16.8	15.8	14.8	14.7
115	24.7	22.5	22.6	25.6	20.9	17.5	17.2	18.9	18.7	17.5	16.0	14.8	14.3	13.5	12.7	11.7	10.6	9.71	9.68
120	25.6	25.7	25.7	25.5	25.1	22.4	21.6	21.2	19.8	18.6	17.1	15.4	13.5	11.5	9.58	7.67	5.96	4.76	4.63
125	25.0	25.1	25.1	25.1	25.1	24.7	23.5	22.1	20.9	19.4	18.1	16.4	14.7	12.8	11.1	9.35	7.79	6.82	6.73
130	23.9	24.1	24.2	24.3	24.4	24.4	24.2	22.9	21.6	20.4	18.9	17.4	15.7	14.1	12.5	11.0	9.63	8.90	8.82
135	22.6	22.9	23.2	23.3	23.4	23.5	23.5	23.5	22.4	21.1	19.8	18.3	16.8	15.4	14.1	12.7	11.5	11.0	10.9
140	21.3	21.6	21.9	22.1	22.2	22.3	22.3	22.4	22.3	21.8	20.6	19.3	17.9	16.7	15.6	14.3	13.4	13.1	13.0
145	19.9	20.2	20.5	20.7	20.9	21.0	21.1	21.0	21.0	20.8	20.5	20.1	19.1	18.1	17.0	16.0	15.3	15.2	15.1
150	18.4	18.7	19.0	19.3	19.5	19.6	19.6	19.6	19.5	19.3	19.0	18.7	18.4	18.1	17.6	17.2	17.1	17.2	17.2
155	17.0	17.4	17.6	17.9	18.0	18.1	18.2	18.1	18.0	17.7	17.4	17.2	16.9	16.6	16.2	16.0	16.1	16.2	16.2
160	15.8	16.0	16.2	16.3	16.4	16.4	16.3	16.2	16.0	15.9	15.7	15.5	15.3	15.0	14.9	15.0	15.1	15.2	15.2
165	13.5	13.7	13.9	14.0	14.1	14.2	14.2	14.2	14.1	14.1	14.0	13.9	13.8	13.8	14.0	14.1	14.1	14.1	14.2
170	11.6	11.8	11.9	12.1	12.2	12.2	12.3	12.4	12.4	12.5	12.6	12.7	12.8	12.9	13.0	13.1	13.1	13.1	13.1
175	11.1	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.7	11.8	11.9	11.9	12.0	12.0	12.1	12.1	12.1	12.1	12.1
180	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

C( DEG) γ (DEG)	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185
0	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
5	313	313	313	313	313	314	314	314	315	315	315	316	317	317	318	318	319	320	319
10	306	306	306	306	306	307	307	308	308	309	310	310	311	312	313	314	315	316	315
15	298	299	299	299	299	299	300	300	301	301	302	303	304	305	306	307	309	311	309
20	291	291	291	291	292	292	292	292	292	292	293	293	294	295	297	298	300	303	301
25	284	284	284	284	284	283	283	283	282	282	282	282	283	284	285	287	289	292	290
30	277	277	276	276	275	275	274	273	272	271	270	270	271	272	273	276	279	276	276
35	257	257	258	259	261	263	264	262	260	259	257	256	255	255	256	258	260	264	261
40	236	237	238	239	240	242	243	245	247	246	243	241	240	239	239	240	243	246	243
45	216	217	218	219	220	220	222	223	224	226	229	225	223	221	220	221	223	227	224
50	196	197	197	198	199	199	200	201	202	203	205	207	205	202	200	200	202	206	202
55	176	176	177	178	178	178	179	179	179	180	181	182	185	182	179	178	180	184	180
60	155	156	157	157	158	158	158	157	157	157	157	158	159	161	157	155	156	160	157
65	135	136	136	137	137	137	137	136	135	135	134	134	134	135	136	132	132	135	132
70	115	116	116	117	117	117	116	116	115	113	112	111	110	110	110	109	107	111	108
75	95.0	95.8	96.2	96.5	96.7	96.8	96.7	96.4	95.8	94.4	92.5	90.3	88.4	87.3	86.5	86.7	84.6	86.8	85.5
80	74.9	75.7	76.1	76.4	76.7	77.0	77.3	77.5	77.6	76.5	74.9	73.0	70.7	68.3	66.7	65.5	65.0	65.7	66.1
85	54.8	55.6	56.0	56.3	56.8	57.4	58.2	59.0	59.9	59.3	58.4	57.1	55.5	53.6	50.7	47.8	46.0	49.1	49.8
90	34.7	35.5	35.9	36.3	36.9	37.8	39.2	40.6	42.5	42.6	42.4	42.0	41.4	40.3	36.2	29.3	19.4	22.0	38.2
95	29.7	30.6	31.1	31.6	32.3	33.2	34.2	35.1	35.4	33.4	30.8	31.2	32.7	33.5	28.2	18.2	5.88	5.26	16.6
100	24.7	25.6	26.2	26.9	27.6	28.5	29.2	29.6	28.7	24.8	19.7	19.6	22.6	25.6	22.5	13.2	4.25	3.81	9.74
105	19.7	20.5	21.3	22.1	22.9	23.7	24.3	24.1	22.7	17.4	10.4	6.70	12.5	16.4	13.8	8.09	4.87	2.82	6.00
110	14.6	15.5	16.4	17.3	18.1	18.9	19.5	18.9	17.5	11.7	7.79	6.93	12.4	13.7	8.70	3.32	3.80	2.51	3.60
115	9.63	10.4	11.4	12.4	13.2	13.9	14.5	15.3	16.3	15.6	13.9	13.6	16.0	18.8	15.9	13.2	12.5	14.3	12.8
120	4.74	5.85	7.47	9.35	11.3	13.2	15.2	16.7	17.8	18.7	18.5	19.0	21.0	24.8	24.6	22.9	23.1	25.1	23.3
125	6.79	7.68	9.16	10.9	12.7	14.4	16.1	17.9	19.0	20.2	21.3	22.4	24.5	25.1	25.0	25.0	24.9	25.1	25.0
130	8.85	9.50	10.8	12.4	14.0	15.6	17.1	18.7	20.2	21.3	22.6	23.9	24.3	24.3	24.3	24.3	24.1	24.1	24.1
135	10.9	11.3	12.5	13.9	15.4	16.8	18.1	19.5	20.9	22.2	23.3	23.3	23.3	23.3	23.2	23.1	22.9	22.8	22.9
140	13.0	13.2	14.1	15.3	16.7	18.0	19.2	20.4	21.6	22.1	22.2	22.3	22.2	22.2	22.1	21.9	21.7	21.5	21.7
145	15.1	15.2	15.8	16.8	18.0	19.2	20.3	20.5	20.7	20.8	20.9	21.0	21.0	20.9	20.8	20.6	20.3	20.0	20.3
150	17.1	17.0	17.0	17.4	17.8	18.4	18.8	19.2	19.4	19.5	19.6	19.6	19.6	19.5	19.4	19.2	18.9	18.6	18.9
155	16.1	16.0	15.9	16.0	16.3	16.7	17.1	17.5	17.8	18.1	18.2	18.3	18.2	18.1	18.0	17.8	17.6	17.3	17.5
160	15.1	15.0	14.9	14.8	14.9	15.1	15.4	15.6	15.8	16.0	16.2	16.3	16.4	16.4	16.4	16.3	16.1	15.8	16.0
165	14.1	14.1	14.0	13.9	13.8	13.7	13.8	13.9	14.0	14.0	14.1	14.1	14.1	14.0	13.9	13.8	13.6	13.3	13.5
170	13.1	13.1	13.0	13.0	12.9	12.8	12.7	12.6	12.5	12.4	12.3	12.3	12.2	12.2	12.1	11.9	11.8	11.5	11.6
175	12.1	12.1	12.1	12.0	12.0	12.0	11.9	11.8	11.8	11.7	11.6	11.6	11.5	11.4	11.3	11.2	11.1	10.8	10.9
180	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.0	11.0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

Table--3

UNIT: cd

C( DEG) γ (DEG)	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280
0	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
5	318	318	317	317	316	316	315	315	315	314	314	314	314	314	314	313	314	313	314
10	314	313	312	311	311	310	309	309	308	308	308	307	307	307	307	307	307	307	307
15	308	306	305	304	303	303	302	302	301	301	301	300	300	300	300	300	300	300	300
20	299	297	296	295	294	294	293	293	293	293	293	293	293	293	293	293	293	293	293
25	287	286	285	284	283	283	283	284	284	285	285	286	286	286	286	286	286	286	286
30	274	272	271	271	271	272	272	273	275	276	277	278	278	279	279	279	279	280	280
35	258	257	256	257	258	259	261	262	264	266	265	263	262	261	260	260	259	260	261
40	241	240	240	241	243	245	248	249	247	246	244	243	242	241	240	240	239	240	241
45	222	221	222	224	227	231	229	227	226	224	224	223	222	221	220	220	220	220	221
50	201	201	203	207	210	207	206	205	204	203	203	202	202	201	200	200	200	200	201
55	179	181	184	187	185	184	183	183	182	182	182	182	182	181	181	180	180	180	181
60	156	159	163	161	160	160	160	161	161	161	162	162	161	161	161	160	160	160	161
65	133	138	137	136	137	137	138	139	140	141	141	141	141	141	140	140	139	140	141
70	111	112	112	113	114	115	117	119	120	120	121	120	120	120	119	119	119	119	120
75	88.3	88.6	89.7	91.3	93.4	95.6	97.5	99.0	100	100	100	99.9	99.6	99.2	98.9	98.3	98.1	98.5	99.2
80	67.1	68.6	70.6	73.1	75.4	77.4	79.0	80.2	81.1	80.8	80.3	79.5	79.0	78.6	78.3	77.7	77.6	77.8	78.5
85	51.4	53.3	55.3	57.2	58.9	60.2	61.2	61.9	62.3	61.6	60.4	59.3	58.4	58.0	57.7	57.1	57.0	57.2	57.7
90	39.3	40.8	41.7	42.5	43.2	43.6	43.8	43.9	43.7	42.4	40.6	39.0	37.9	37.4	37.0	36.5	36.4	36.5	37.0
95	24.1	30.2	33.2	32.8	32.0	31.7	34.6	37.2	38.4	37.7	36.4	35.1	34.1	33.5	33.1	32.5	32.5	33.1	33.1
100	16.2	21.6	23.7	22.1	20.1	20.2	26.1	31.1	33.2	33.0	32.1	31.1	30.3	29.5	29.2	28.5	28.5	28.6	29.1
105	8.12	12.5	15.2	12.2	6.95	10.8	19.0	26.0	28.1	28.3	27.8	27.1	26.5	25.6	25.3	24.5	24.6	24.6	25.2
110	3.16	8.52	13.5	12.4	6.85	8.45	14.1	21.6	23.1	23.7	23.6	23.1	22.7	21.6	21.3	20.5	20.6	20.6	21.2
115	13.4	15.9	18.8	15.8	13.6	14.8	18.2	20.0	19.6	19.3	19.4	19.1	18.8	17.8	17.3	16.5	16.6	16.6	17.2
120	23.1	24.6	24.3	20.7	19.1	19.6	21.1	20.6	20.2	19.3	18.3	17.0	16.1	14.8	13.7	12.6	12.7	12.7	13.5
125	24.8	24.7	24.7	24.0	22.4	22.3	21.7	21.1	20.4	19.4	18.6	17.4	16.3	15.3	14.2	13.3	13.4	13.4	14.0
130	24.1	24.0	23.9	23.8	23.5	22.8	22.0	21.4	20.6	19.5	18.7	17.8	16.4	15.8	14.7	14.1	14.1	14.1	14.5
135	23.0	23.0	23.0	22.9	22.9	22.8	22.2	21.4	20.4	19.8	18.8	18.0	16.8	16.2	15.2	14.8	14.9	14.8	15.0
140	21.8	21.9	22.0	22.0	21.9	21.8	21.7	21.1	20.5	19.7	19.0	18.0	17.4	16.6	15.7	15.5	15.6	15.5	15.6
145	20.5	20.6	20.7	20.7	20.7	20.5	20.3	20.3	20.0	19.7	19.0	18.3	17.8	16.9	16.3	16.3	16.3	16.2	16.2
150	19.1	19.3	19.3	19.3	19.3	19.3	19.2	19.0	18.7	18.4	18.0	17.9	17.5	17.0	16.9	17.0	17.0	16.9	16.7
155	17.7	17.9	18.0	18.0	18.0	17.9	17.7	17.4	17.1	16.8	16.7	16.4	16.0	15.8	15.9	16.0	16.0	15.9	15.8
160	16.2	16.2	16.2	16.2	16.1	15.9	15.7	15.6	15.5	15.4	15.1	14.9	14.7	14.8	14.9	15.0	15.0	15.0	14.8
165	13.7	13.8	13.9	13.9	13.9	14.0	14.0	13.9	13.8	13.7	13.6	13.6	13.7	13.8	13.9	14.0	14.0	14.0	13.9
170	11.8	11.9	12.0	12.1	12.2	12.2	12.2	12.3	12.4	12.4	12.6	12.7	12.8	12.9	12.9	13.0	13.0	13.0	12.9
175	10.9	11.0	11.1	11.2	11.3	11.4	11.5	11.5	11.6	11.7	11.8	11.8	11.9	11.9	12.0	12.0	12.0	12.0	12.0
180	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: DAMIN  
 Test Date: 2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity: 65.0%  
 Test Distance: 9.646m [K=1.0000]  
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.1V I:0.1595A P:17.09W PF:0.8918 Lamp Flux:1172.55x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

Table--4

UNIT: cd

C( DEG) γ (DEG)	285	290	295	300	305	310	315	320	325	330	335	340	345	350	355				
0	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320				
5	314	314	314	314	315	315	315	316	316	317	317	318	318	319	319				
10	307	307	308	308	308	309	309	310	311	311	312	313	314	315	316				
15	300	301	301	301	302	302	303	303	304	305	305	306	308	309	311				
20	293	294	294	294	294	294	294	295	295	296	297	298	299	301	302				
25	287	287	286	286	286	286	286	285	285	285	286	287	288	290	292				
30	280	279	279	278	277	276	275	275	274	273	273	274	275	276	279				
35	262	263	265	267	268	266	265	263	261	260	259	259	259	261	263				
40	242	243	245	246	248	249	252	250	248	245	244	242	242	243	246				
45	222	223	224	225	227	228	229	231	234	230	227	225	224	224	226				
50	202	203	204	205	205	206	207	209	210	212	210	206	204	204	205				
55	182	183	184	184	184	185	185	185	186	188	190	187	183	182	183				
60	162	163	163	163	163	163	163	163	163	163	164	166	162	159	159				
65	141	142	143	143	143	142	142	141	140	140	139	140	141	136	135				
70	121	121	122	122	122	122	121	120	118	117	116	115	115	114	111				
75	99.8	100	101	101	102	102	101	99.7	98.0	95.9	93.9	92.3	91.2	91.0	88.1				
80	79.0	79.5	80.1	80.9	81.6	82.3	81.8	80.7	79.3	77.5	75.3	72.9	70.9	69.4	68.4				
85	58.3	58.8	59.4	60.6	61.9	63.3	63.1	62.6	61.7	60.5	59.0	57.2	55.2	53.2	51.5				
90	37.5	38.0	38.8	40.3	42.2	44.4	44.7	44.8	44.7	44.4	43.9	43.1	42.2	41.1	40.2				
95	33.6	34.1	34.8	36.1	37.5	39.0	39.1	37.4	34.0	30.8	31.5	32.5	31.2	25.8	20.1				
100	29.7	30.3	30.8	31.8	32.7	33.5	33.4	30.9	24.6	17.3	18.0	20.3	21.1	15.6	9.42				
105	25.8	26.4	26.8	27.4	28.0	28.2	27.8	25.7	17.3	6.89	7.09	14.2	12.2	5.20	4.11				
110	21.9	22.5	22.8	23.2	23.4	23.2	22.3	21.4	16.1	11.7	10.9	17.0	15.7	9.92	8.37				
115	18.0	18.5	18.8	18.9	18.9	19.5	20.2	21.4	21.0	18.3	17.9	21.0	26.1	23.3	23.2				
120	14.7	15.9	17.0	17.9	19.0	20.0	20.8	21.8	22.9	22.6	22.8	25.1	25.6	25.9	26.0				
125	15.1	16.3	17.4	18.3	19.4	20.4	21.3	22.1	23.1	24.1	24.8	25.1	25.3	25.3	25.3				
130	15.5	16.7	17.8	18.6	19.6	20.7	21.6	22.5	23.3	24.3	24.6	24.6	24.6	24.5	24.5				
135	15.9	17.0	18.1	19.0	19.8	20.8	21.8	22.6	23.4	23.5	23.6	23.7	23.8	23.7	23.6				
140	16.2	17.2	18.3	19.3	19.9	20.8	21.7	22.2	22.4	22.4	22.5	22.6	22.5	22.5	22.3				
145	16.6	17.4	18.3	19.4	20.2	20.3	20.6	20.8	21.1	21.2	21.3	21.2	21.2	21.1	20.9				
150	16.7	17.1	17.6	18.2	18.7	19.1	19.3	19.4	19.6	19.7	19.8	19.8	19.7	19.6	19.3				
155	15.6	15.8	16.1	16.5	16.9	17.4	17.8	18.1	18.2	18.3	18.3	18.2	18.2	18.0	17.8				
160	14.7	14.6	14.7	14.9	15.2	15.4	15.7	16.0	16.2	16.4	16.5	16.6	16.5	16.4	16.3				
165	13.7	13.6	13.5	13.5	13.5	13.6	13.8	13.9	14.0	14.0	14.1	14.0	14.0	13.9	13.7				
170	12.9	12.8	12.6	12.5	12.4	12.3	12.2	12.1	12.1	12.1	12.0	12.0	11.9	11.8	11.7				
175	12.0	11.9	11.9	11.8	11.7	11.7	11.6	11.5	11.4	11.3	11.2	11.1	11.0	10.9	10.8				
180	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0				

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2017-03-27

γ Range: 0 - 180DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.286  
 Humidity:65.0%  
 Test Distance:9.646m [K=1.0000]  
 Remarks: