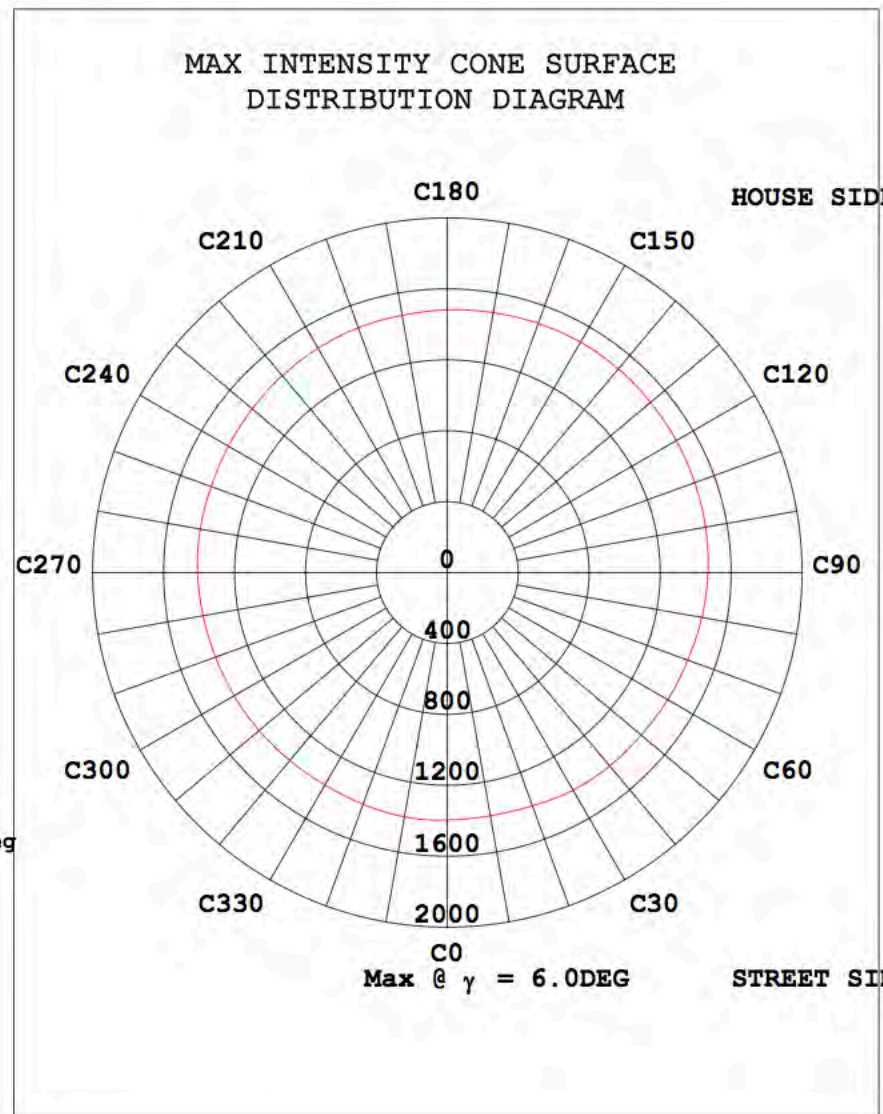
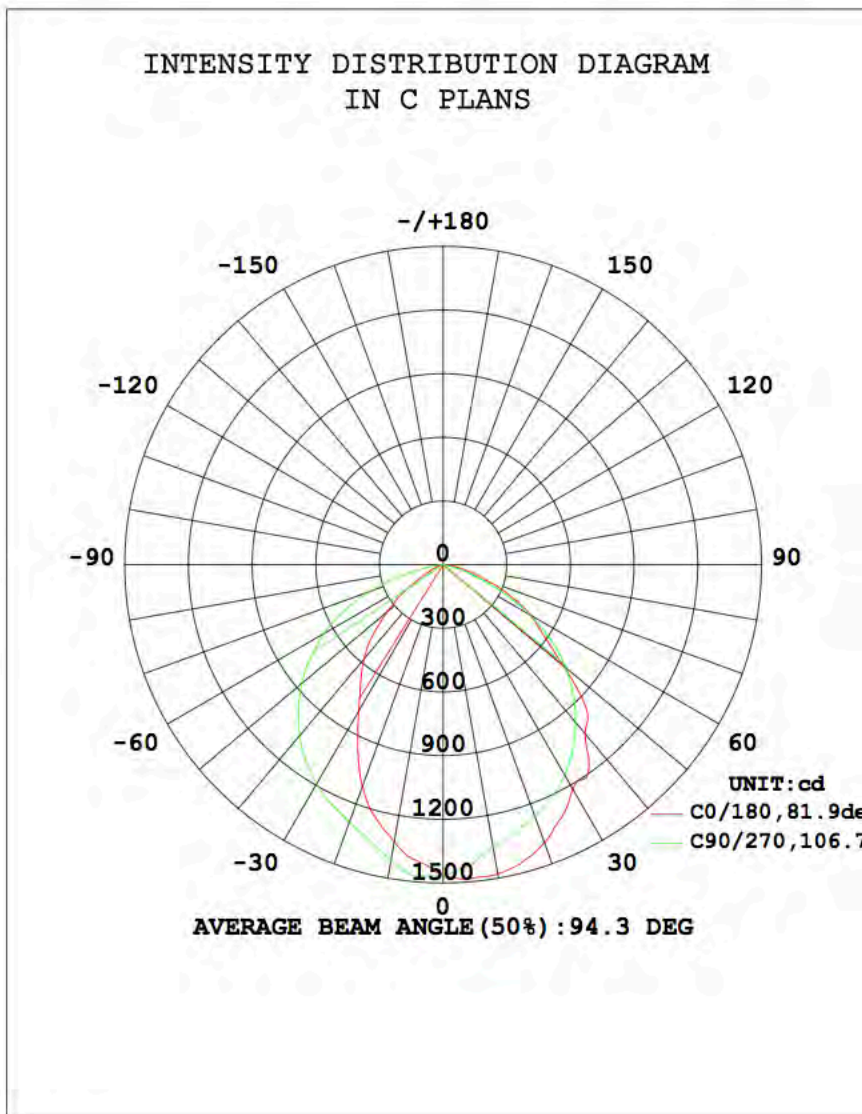


STREETLIGHT PHOTOMETRIC TEST REPORT

Test:U:120.0V I:0.2335A P:27.75W PF:0.9900 Lamp Flux:3188.17x1 lm		
NAME:	TYPE:83361,83362	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 114.88 lm/W			
MODEL	83361,83362	I _{max} (cd)	1501	η street_up (%)	0.0
NOMINAL POWER (W)	30	LOR (%)	100.0	η street_down (%)	44.2
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	3188	η house_up (%)	0.1
NOMINAL FLUX (lm)	3188.17	MAXIMUM @ (C,γ)	150,6.0	η house_down (%)	55.7
LAMPS INSIDE	1	η up (%)	0.1	76 FLASHAREA (m2)	
TEST VOLTAGE (V)	120	η down (%)	99.9	SLI	



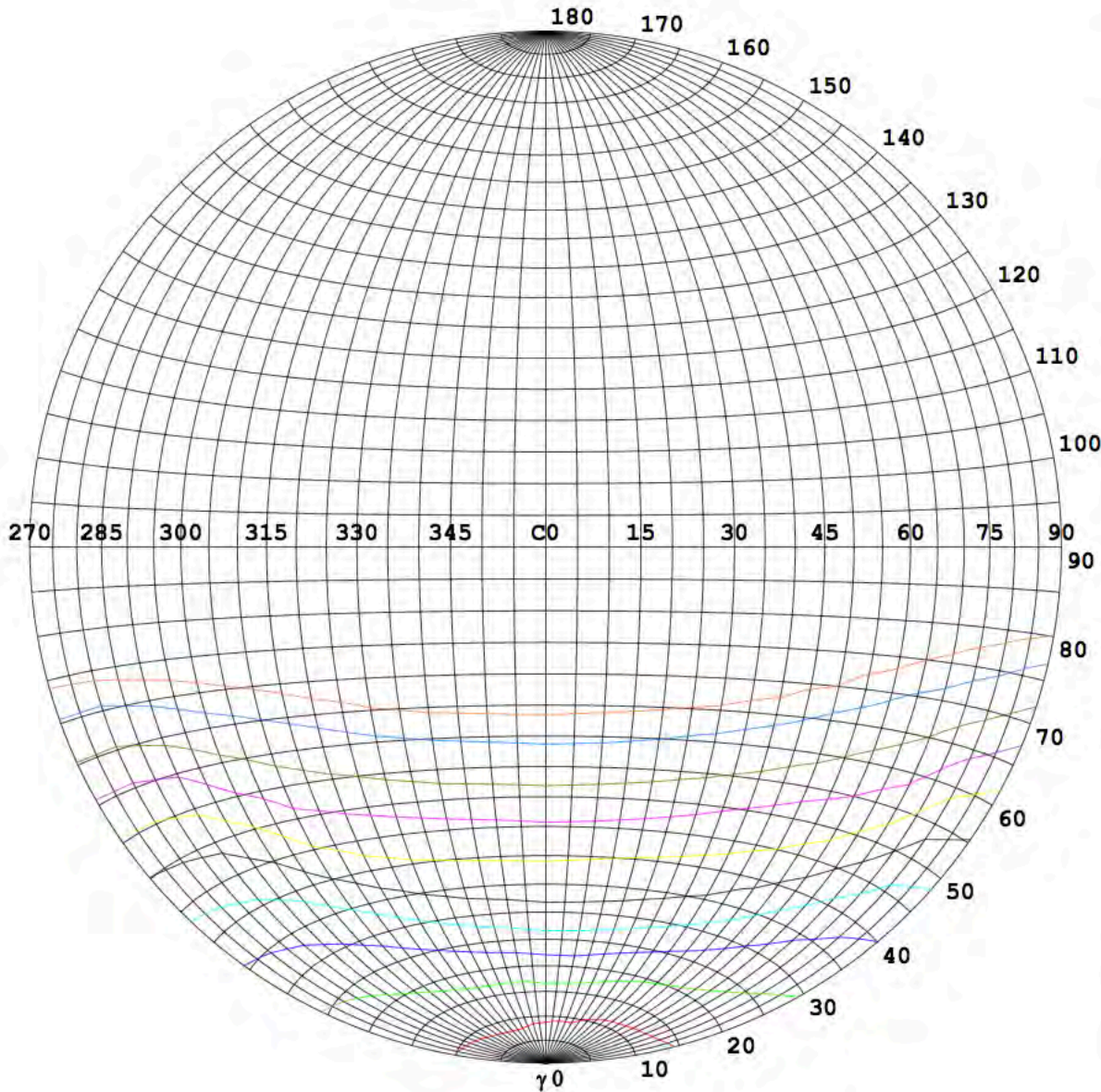
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.6DEG
Operators: David
Test Date: 2017-04-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity: 67.1%
Test Distance: 2.615m [K=1.0000]
Remarks:

Note: SLI: Specific Luminaire Index

STREETLIGHT ISOCANDELA DIAGRAM

Test:U:120.0V I:0.2335A P:27.75W PF:0.9900 Lamp Flux:3188.17x1 lm		
NAME:	TYPE:83361,83362	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:



Classification:

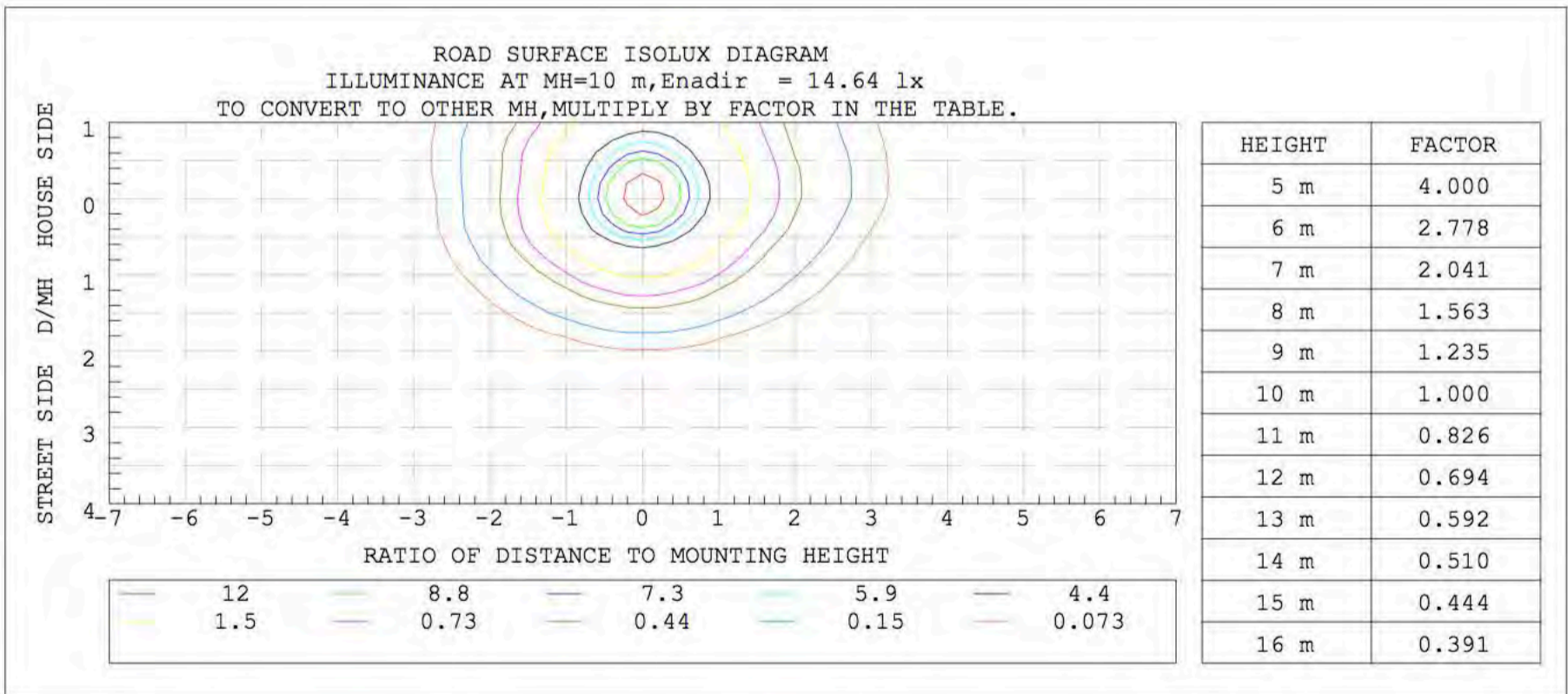
IES:Type V - Very Short
 CIE:Narrow - Short
 IES:Cut-off
 CIE:Semi-cut-off
 Max.At80:45.43cd/klm
 Max.At90:4.817cd/klm
 Max.80-90:45.43cd/klm

ISOCANDELA DIAGRAM	
UNIT	cd
Imax=100%	1501
90%	1351
80%	1201
70%	1051
60%	901
50%	751
40%	601
30%	450
20%	300
10%	150
5%	75

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-04-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:2.615m [K=1.0000]
 Remarks:

**COEFFICIENT OF UTILIZATION CURVE
AND ISOLUX DIAGRAM**



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature: 25.6DEG
 Operators: David
 Test Date: 2017-04-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity: 67.1%
 Test Distance: 2.615m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

Test:U:120.0V I:0.2335A P:27.75W PF:0.9900 Lamp Flux:3188.17x1 lm		
NAME:	TYPE:83361,83362	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum
10	1327	1374	1417	1459	1480	1411	1353	1319	0- 10	136.2	136.2	4.27
20	1113	1196	1293	1359	1393	1305	1262	1173	10- 20	374.6	510.8	16
30	796.5	946.5	1193	1228	1221	1155	1145	980.3	20- 30	541.5	1052	33
40	581.3	684.6	1053	1071	1041	1021	971.1	710.9	30- 40	620.8	1673	52.5
50	340.5	481.7	869.1	915.6	738.0	795.2	753.9	463.3	40- 50	607.3	2280	71.5
60	125.5	241.6	648.1	689.8	475.6	456.5	471.3	230.8	50- 60	479.1	2760	86.6
70	38.90	66.25	364.6	364.2	224.8	210.0	163.3	59.13	60- 70	289.8	3049	95.6
80	9.269	16.67	76.68	123.1	65.67	62.77	16.80	9.085	70- 80	113.1	3162	99.2
90	1.139	1.098	4.164	15.12	9.581	3.693	1.125	2.148	80- 90	22.49	3185	99.9
100	0.8608	0.5766	0	0.0362	0.5100	1.483	4.656	2.838	90-100	2.016	3187	100
110	0.3780	0.1525	0	0.0118	0.1804	0.7092	1.162	0.5566	100-110	0.8698	3188	100
120	0.0748	0.0245	0	0.0015	0.0699	0.2271	0.5597	0.1805	110-120	0.2442	3188	100
130	0.0117	0.0020	0.0015	0	0.0218	0.0236	0.1970	0.0602	120-130	0.0723	3188	100
140	0.0072	0.0055	0.0053	0	0	0	0.0368	0.0232	130-140	0.0171	3188	100
150	0.0148	0.0080	0.0091	0.0034	0.0000	0.0027	0.0092	0.0312	140-150	0.0050	3188	100
160	0.0219	0.0097	0.0114	0.0064	0.0048	0.0073	0.0102	0.0404	150-160	0.0057	3188	100
170	0.0229	0.0122	0.0132	0.0103	0.0084	0.0109	0.0139	0.0186	160-170	0.0039	3188	100
180	0	0	0	0	0	0	0	0	170-180	0.0009	3188	100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.6DEG
Operators:David
Test Date:2017-04-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity:67.1%
Test Distance:2.615m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

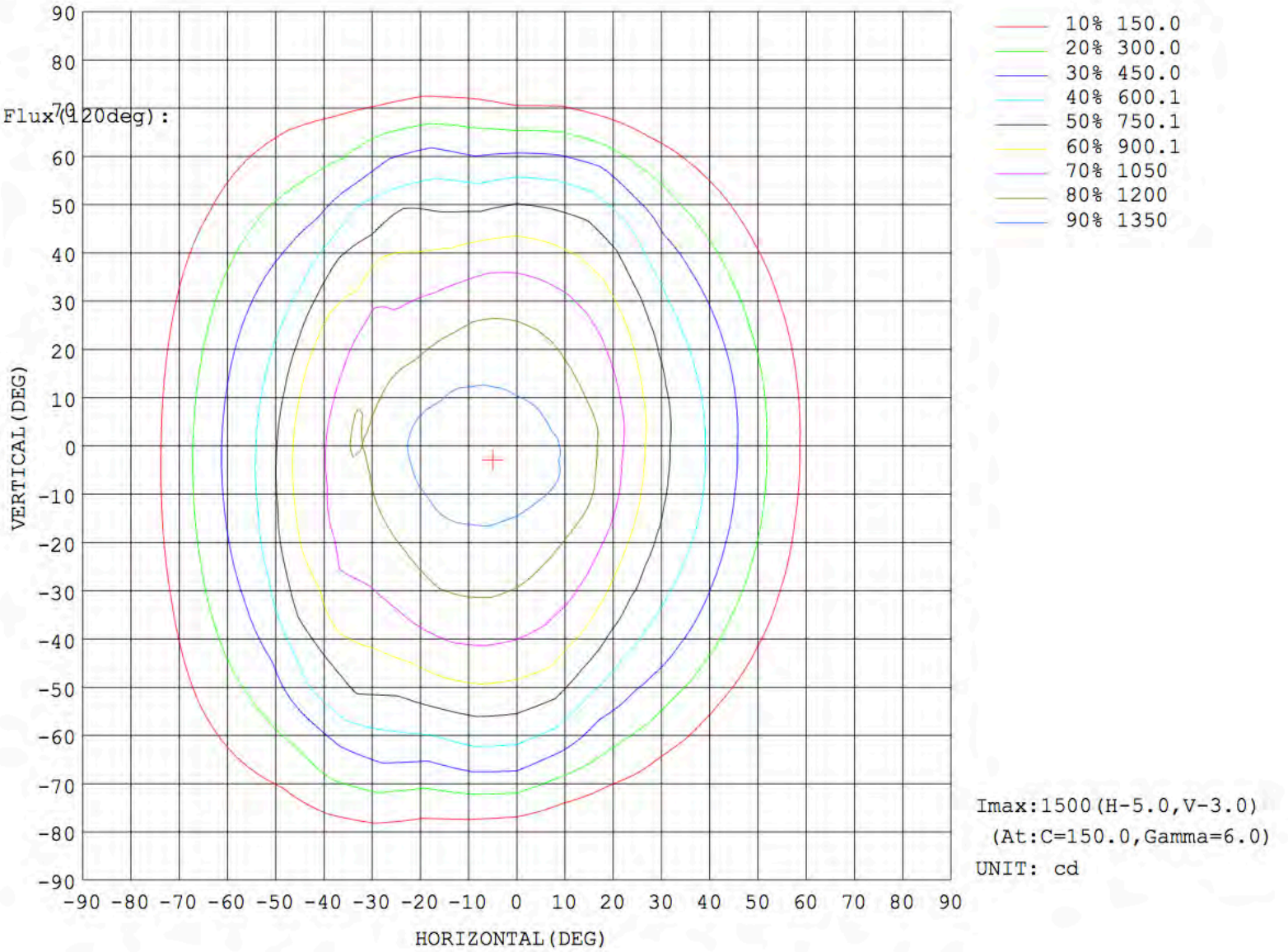
Test:U:120.0V I:0.2335A P:27.75W PF:0.9900 Lamp Flux:3188.17x1 lm		
NAME:	TYPE:83361,83362	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

Conical surface Flux(90deg):

1985.3 lm
 %lum = 62.3%
 %lamp = 62.3%

Conical surface Flux(120deg):

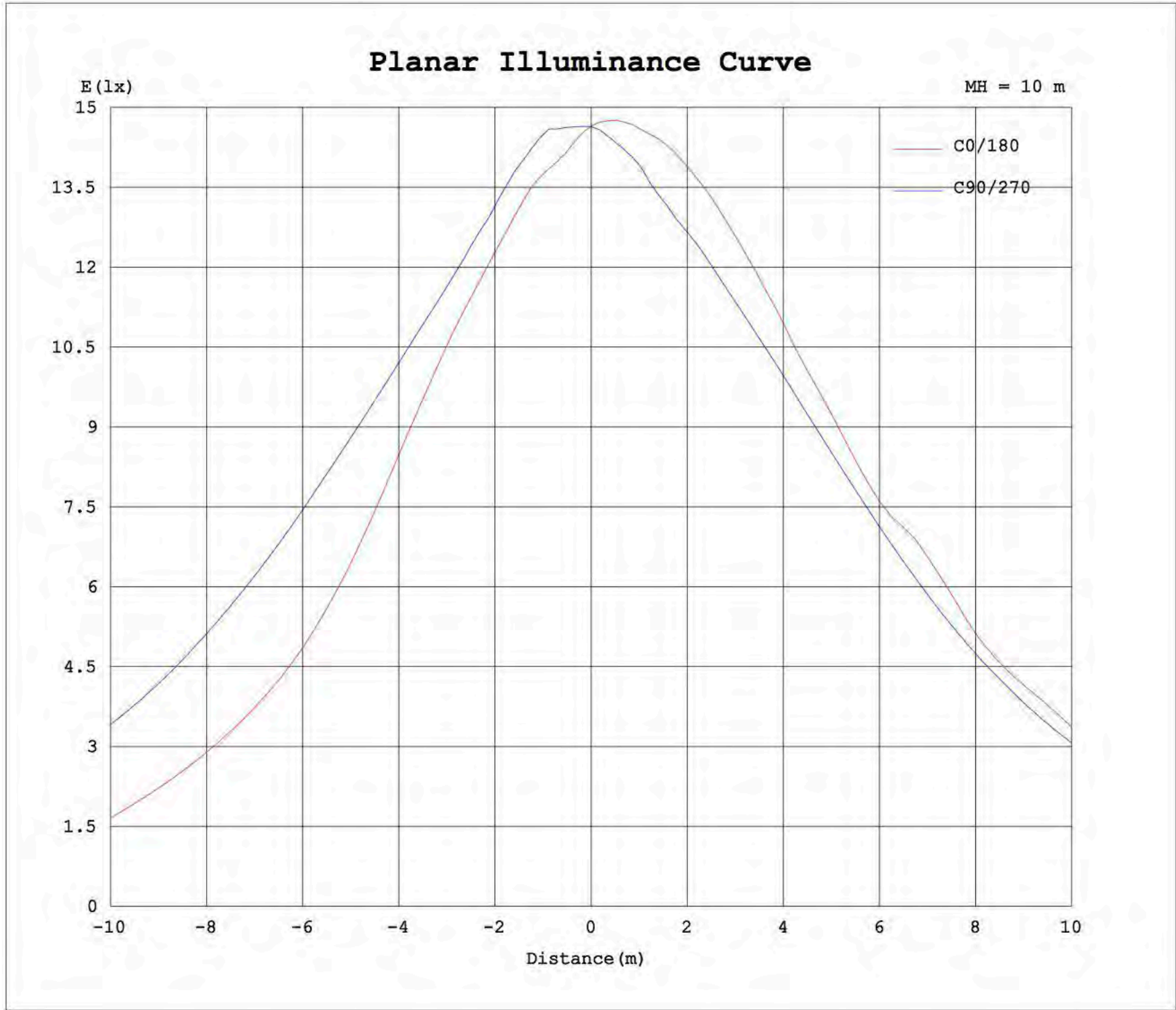
2759.6 lm
 %lum = 86.6%
 %lamp = 86.6%



C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-04-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:2.615m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature: 25.6DEG
Operators: David
Test Date: 2017-04-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.287
Humidity: 67.1%
Test Distance: 2.615m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.0V I:0.2335A P:27.75W PF:0.9900 Lamp Flux:3188.17x1 lm		
NAME:	TYPE:83361,83362	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C (DEG) γ (DEG)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	1465	1463	1464	1464	1465	1464	1464	1465	1464	1464	1464	1465	1465	1466	1466	1465	1465	1466	1465
5	1401	1402	1411	1428	1438	1441	1449	1456	1465	1476	1484	1488	1492	1497	1498	1495	1490	1485	1484
10	1327	1335	1338	1357	1371	1376	1383	1391	1402	1417	1424	1429	1443	1454	1463	1471	1478	1483	1480
15	1234	1243	1248	1264	1287	1288	1297	1309	1324	1344	1359	1376	1387	1400	1413	1428	1438	1443	1449
20	1113	1110	1136	1163	1188	1204	1220	1242	1268	1293	1311	1328	1337	1353	1364	1369	1370	1384	1393
25	953	956	981	1018	1063	1104	1146	1180	1213	1245	1269	1284	1293	1302	1295	1299	1296	1300	1316
30	796	802	822	859	912	981	1054	1110	1156	1193	1221	1234	1239	1233	1224	1214	1226	1217	1221
35	680	686	710	727	770	844	942	1029	1086	1129	1159	1173	1178	1159	1142	1142	1139	1185	1193
40	581	591	605	624	657	712	812	927	1008	1053	1082	1095	1088	1069	1072	1079	1103	1051	1041
45	469	477	498	526	560	602	679	803	920	966	995	1003	988	991	990	1014	966	960	951
50	340	349	372	408	459	504	558	671	819	869	897	896	878	893	938	884	854	779	738
55	233	241	259	283	331	394	451	537	694	761	787	775	765	802	781	754	653	594	576
60	126	131	148	179	218	265	344	413	563	648	669	644	662	717	662	551	495	482	476
65	64.6	67.5	71.6	83.1	115	169	221	303	415	517	534	499	542	547	492	409	389	369	353
70	38.9	41.2	43.8	47.8	56.4	76.1	132	185	263	365	382	358	417	399	329	294	273	243	225
75	21.2	22.8	24.6	27.4	32.0	38.7	56.2	91.3	134	203	223	221	277	270	202	184	165	140	129
80	9.27	10.3	11.5	12.8	15.0	18.3	24.3	32.9	53.7	76.7	91.2	108	145	137	109	107	90.8	73.5	65.7
85	2.52	2.91	3.45	4.16	5.40	6.70	8.43	10.8	14.3	19.5	23.3	33.5	57.2	57.5	55.0	52.4	41.0	32.8	30.2
90	1.14	1.17	1.14	1.07	1.13	1.06	1.37	1.80	2.51	4.16	5.09	7.33	13.9	14.9	15.4	14.2	11.4	9.76	9.58
95	0.88	0.82	0.75	0.71	0.75	0.70	0.56	0.38	0.17	0.02	0.00	0.00	0.12	0.41	0.68	0.97	1.20	1.34	1.63
100	0.86	0.82	0.74	0.63	0.60	0.55	0.36	0.18	0.04	0.00	0.00	0.00	0.00	0.01	0.06	0.12	0.18	0.31	0.51
105	0.66	0.57	0.47	0.39	0.37	0.28	0.15	0.05	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.08	0.10	0.15	0.17
110	0.38	0.35	0.29	0.23	0.19	0.12	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.08	0.12	0.15	0.18
115	0.18	0.17	0.14	0.11	0.08	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.06	0.08	0.10
120	0.07	0.07	0.07	0.05	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.05	0.07
125	0.03	0.03	0.03	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.04	0.05
130	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
135	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
155	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
160	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
165	0.02	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
170	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
175	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-04-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:2.615m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:120.0V I:0.2335A P:27.75W PF:0.9900 Lamp Flux:3188.17x1 lm		
NAME:	TYPE:83361,83362	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: P.Q.L., Inc.	SUR.:	PROTECTION ANGLE:

Table--2

UNIT: cd

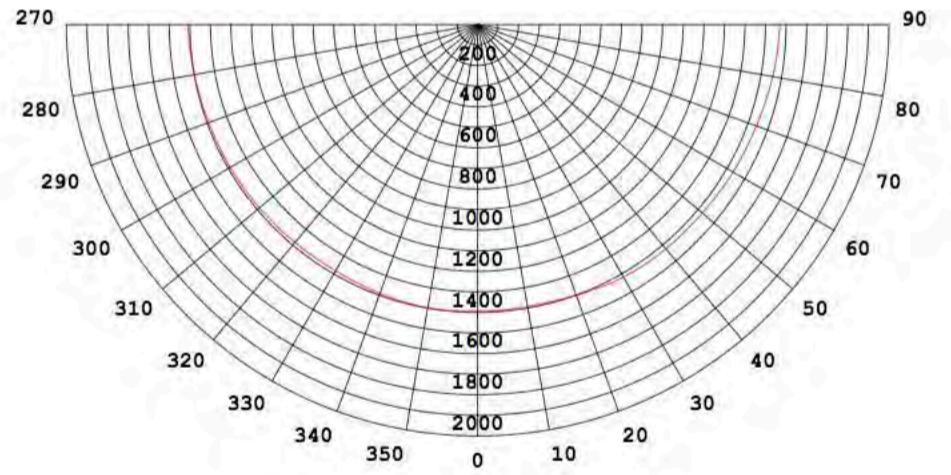
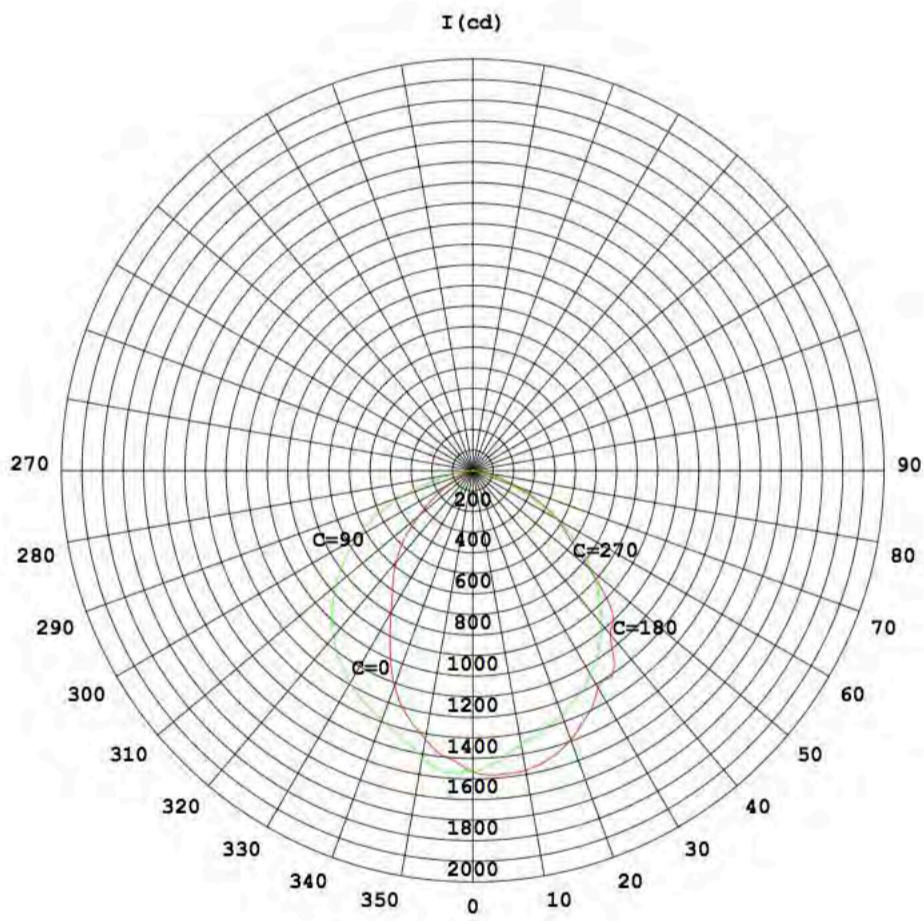
C (DEG) γ (DEG)	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350		
0	1463	1464	1464	1465	1464	1464	1465	1464	1464	1464	1465	1465	1466	1466	1465	1465	1466		
5	1477	1473	1468	1456	1445	1437	1426	1423	1422	1421	1417	1414	1411	1407	1408	1409	1409		
10	1465	1449	1438	1421	1401	1393	1383	1365	1353	1347	1340	1331	1322	1315	1316	1320	1326		
15	1436	1418	1398	1375	1357	1344	1327	1321	1308	1296	1283	1267	1253	1241	1238	1239	1243		
20	1378	1353	1328	1308	1302	1290	1281	1275	1262	1248	1230	1205	1183	1163	1148	1136	1129		
25	1300	1276	1249	1239	1227	1231	1227	1222	1210	1192	1169	1137	1105	1070	1031	995	974		
30	1209	1194	1180	1163	1147	1149	1156	1158	1145	1124	1098	1060	1012	949	885	840	815		
35	1183	1173	1128	1078	1077	1061	1063	1072	1065	1042	1013	968	894	808	739	702	687		
40	1030	1018	1026	1054	988	981	959	969	971	949	919	862	757	665	616	595	586		
45	933	931	927	896	949	886	850	852	868	849	820	743	614	543	513	495	481		
50	716	717	751	807	783	802	754	724	754	737	712	612	487	440	399	366	351		
55	563	556	554	593	671	684	648	592	619	610	576	465	373	320	276	249	241		
60	464	452	439	432	481	519	530	460	471	471	434	331	257	205	170	144	131		
65	339	329	324	316	322	393	402	331	310	313	269	197	152	113	79.4	67.1	64.5		
70	212	207	212	214	206	221	232	208	163	166	131	95.5	68.3	49.9	41.9	38.2	38.3		
75	122	117	121	127	116	110	120	89.6	57.4	53.3	42.8	34.5	27.0	23.2	21.2	20.3	20.8		
80	60.5	58.0	61.5	64.3	61.3	51.2	51.6	30.5	16.8	15.0	11.5	10.1	9.42	8.75	8.36	8.49	8.94		
85	27.4	24.8	23.9	23.4	21.4	15.6	12.7	5.99	3.25	2.48	2.13	2.17	2.47	2.59	2.60	2.70	2.65		
90	8.25	6.56	5.07	4.15	3.23	3.01	2.08	1.51	1.12	1.07	1.17	1.95	2.51	1.78	1.73	1.59	1.36		
95	1.76	1.88	2.02	2.10	1.97	1.99	1.98	1.59	1.28	1.53	1.81	2.11	2.21	1.97	1.61	1.38	1.04		
100	0.56	0.68	0.88	1.30	1.67	2.20	6.68	3.54	4.66	6.33	6.65	3.83	3.96	1.72	1.34	1.18	0.94		
105	0.20	0.33	0.60	1.08	1.48	5.00	1.27	1.22	1.38	1.51	1.22	0.97	0.99	1.29	1.01	1.30	0.88		
110	0.21	0.27	0.35	0.57	0.85	0.91	0.85	0.96	1.16	1.27	1.02	0.74	0.60	0.52	0.44	0.40	0.41		
115	0.13	0.15	0.20	0.32	0.48	0.56	0.60	0.75	0.93	0.96	0.73	0.51	0.37	0.26	0.18	0.16	0.19		
120	0.08	0.09	0.11	0.18	0.27	0.34	0.38	0.47	0.56	0.53	0.43	0.33	0.23	0.13	0.05	0.05	0.07		
125	0.05	0.06	0.05	0.07	0.13	0.19	0.25	0.29	0.32	0.32	0.28	0.21	0.14	0.08	0.02	0.02	0.03		
130	0.03	0.03	0.02	0.01	0.04	0.09	0.14	0.18	0.20	0.20	0.17	0.12	0.08	0.04	0.02	0.02	0.01		
135	0.00	0.00	0.00	0.00	0.00	0.03	0.06	0.09	0.11	0.11	0.09	0.05	0.04	0.02	0.02	0.02	0.02		
140	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.04	0.04	0.03	0.02	0.02	0.02	0.02	0.02	0.02		
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02		
150	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.04	0.03	0.03	0.03	0.02	0.02		
155	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.05	0.04	0.04	0.03	0.02		
160	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.04	0.04	0.04	0.03	0.03		
165	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.03	0.03	0.02		
170	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02		
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01		
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		

C Range: 0 - 360DEG
 C Interval: 10.0DEG
 Test Speed: HIGH
 Temperature:25.6DEG
 Operators:David
 Test Date:2017-04-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.287
 Humidity:67.1%
 Test Distance:2.615m [K=1.0000]
 Remarks:

FLUX DATA:

LOR:	100.0 %
STREET DOWN:	1408 lm
STREET UP:	1.494 lm
HOUSE DOWN:	1777 lm
HOUSE UP:	1.740 lm



$$I_{\max}(100\%) = 1501 \text{ cd}$$

