
Client: P.Q.L., Inc.

LumCAT:

Luminaire: STR-32-X-35K-32-HH

Report No:

Ballast type:

Test No:

LampCAT:

Lamp flux(lm)

Number of Lamps: 1

Length(mm): -75

Phm Type: C

Voltage(V): 211.700

Current(A): 0.165

Power (W): 33.060

PF: 0.952

Width(mm): -75

Height(mm): 0

Photometric Results

Lumens(lm): 2969.97, Luminous Efficacy(lm/W): 89.84

Central intensity(cd): 10151.930, Maximum intensity(cd): 10188.650

Angle of maximum intensity: C=90.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=31.4

[C90/270]Total=31.8

Field angle(10%Imax): [C0/180]Total=45.2

[C90/270]Total=46.8

Maximum s/h(1/2): C0_180=0.54 C90_270=0.54

Maximum s/h(1/4): C0_180=0.47 C90_270=0.49

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.220%

Zonal flux distribution table

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$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10170.293	0.000	0	0.00%	0.00%
2.0	10156.523	38.901	38.901	1.31%	1.31%
4.0	10067.782	116.067	154.968	3.91%	5.22%
6.0	9910.190	190.934	345.902	6.43%	11.65%
8.0	9610.306	260.868	606.77	8.78%	20.43%
10.0	8940.157	318.216	924.986	10.71%	31.14%
12.0	7768.161	349.596	1274.582	11.77%	42.92%
14.0	6449.283	350.707	1625.29	11.81%	54.72%
16.0	4884.071	321.655	1946.944	10.83%	65.55%
18.0	3507.053	269.024	2215.968	9.06%	74.61%
20.0	2159.104	202.286	2418.254	6.81%	81.42%
22.0	1317.593	136.625	2554.879	4.60%	86.02%
24.0	749.955	88.587	2643.466	2.98%	89.01%
26.0	425.591	54.478	2697.944	1.83%	90.84%
28.0	257.288	33.996	2731.94	1.14%	91.99%
30.0	183.847	23.452	2755.392	0.79%	92.78%
32.0	154.777	19.125	2774.517	0.64%	93.42%
34.0	127.237	16.843	2791.359	0.57%	93.99%
36.0	102.756	14.466	2805.825	0.49%	94.47%
38.0	90.516	12.755	2818.58	0.43%	94.90%
40.0	72.156	11.226	2829.806	0.38%	95.28%
42.0	69.096	10.162	2839.967	0.34%	95.62%
44.0	58.386	9.534	2849.501	0.32%	95.94%
46.0	58.386	9.054	2858.556	0.30%	96.25%
48.0	53.796	8.997	2867.552	0.30%	96.55%
50.0	53.796	8.904	2876.456	0.30%	96.85%
52.0	43.085	8.256	2884.712	0.28%	97.13%
54.0	47.675	7.948	2892.661	0.27%	97.40%
56.0	46.145	8.428	2901.088	0.28%	97.68%
58.0	43.085	8.206	2909.295	0.28%	97.96%
60.0	40.025	7.812	2917.107	0.26%	98.22%
62.0	30.845	6.797	2923.904	0.23%	98.45%
64.0	32.375	6.177	2930.081	0.21%	98.66%
66.0	29.315	6.131	2936.212	0.21%	98.86%
68.0	18.605	4.837	2941.049	0.16%	99.03%
70.0	14.229	3.361	2944.41	0.11%	99.14%
72.0	7.191	2.221	2946.631	0.07%	99.21%
74.0	15.759	2.407	2949.037	0.08%	99.30%

Equipment: GMS-1800
Temperature($^{\circ}\text{C}$): 25.0

Date: 2020/3/25 星期三
Humidity(%): 65.0%

Operator: 01
Distance(m): 13.55

Zonal flux distribution table

Appendix Page: 3 Total:17

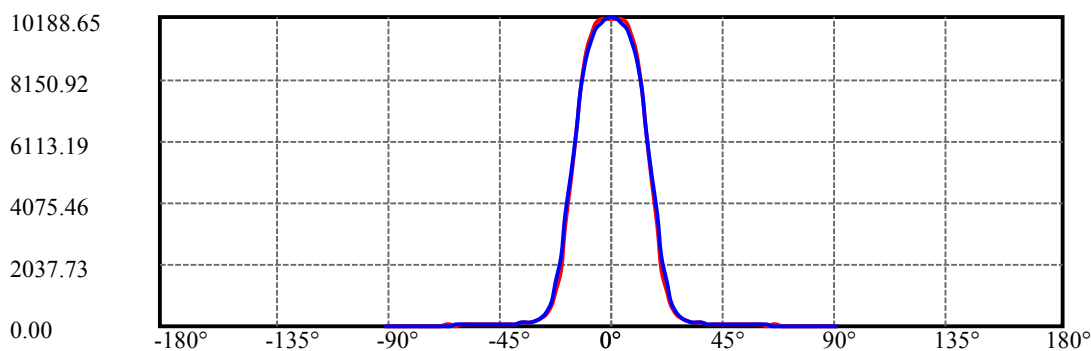
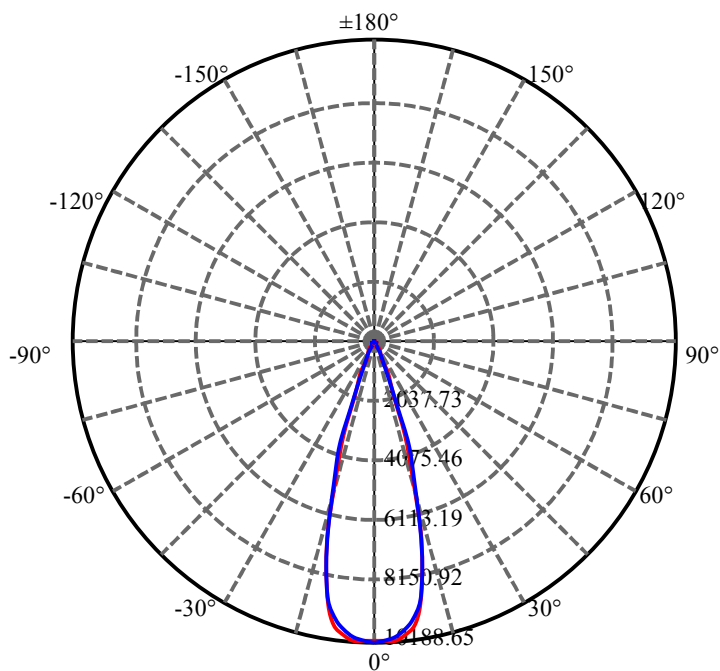
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	14.382	3.193	2952.23	0.11%	99.40%
78.0	11.445	2.759	2954.99	0.09%	99.50%
80.0	11.567	2.477	2957.467	0.08%	99.58%
82.0	14.382	2.810	2960.277	0.09%	99.67%
84.0	12.852	2.964	2963.241	0.10%	99.77%
86.0	8.599	2.343	2965.585	0.08%	99.85%
88.0	10.006	2.037	2967.622	0.07%	99.92%
90.0	11.383	2.345	2969.967	0.08%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	2755.39	92.78%
0-40	2829.81	95.28%
0-60	2917.11	98.22%
0-90	2967.62	99.92%
0-120	2967.62	99.92%
0-180	2969.97	100.00%
60-90	50.52	1.70%
90-120	0.00	0.00%
90-130	0.00	0.00%
90-150	0.00	0.00%
90-180	0.00	0.00%
0-19.58	2375.97	80.00%

ZONAL LUMEN SUMMARY

0-10	924.99
10-20	1493.27
20-30	337.14
30-40	74.41
40-50	46.65
50-60	40.65
60-70	27.30
70-80	13.06
80-90	10.16
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



C0/C180: —

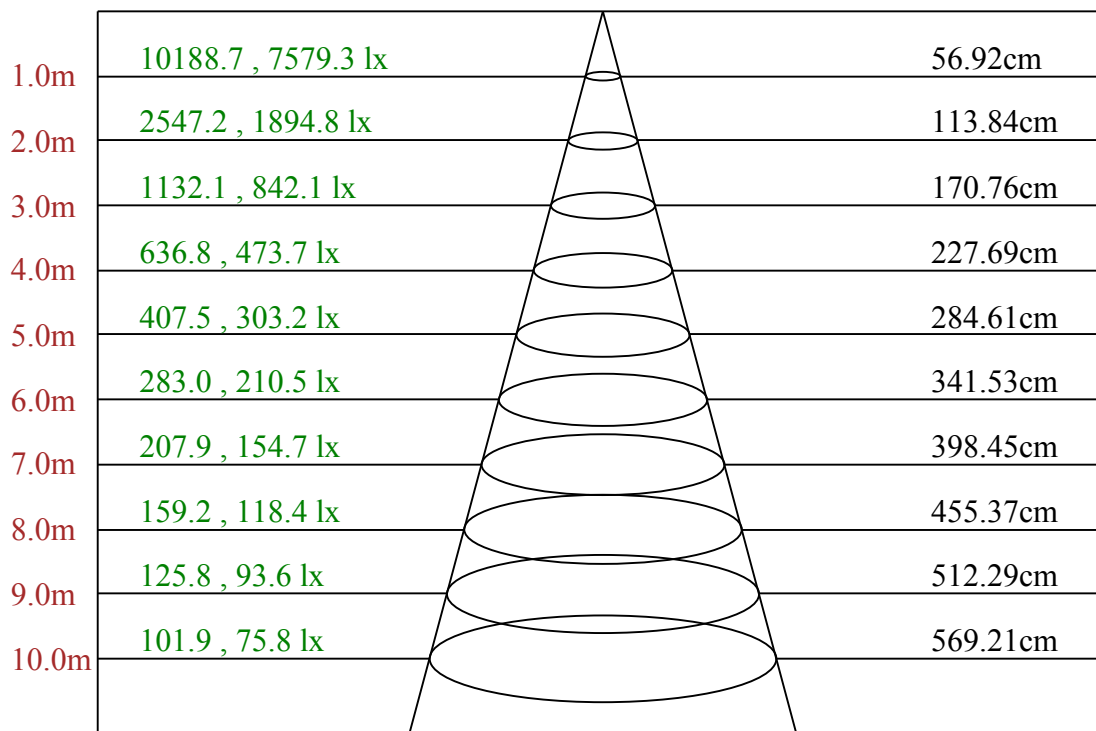
C90/C270: —

Field angle(10%Imax):C0/180Left:24.6 Right:20.6

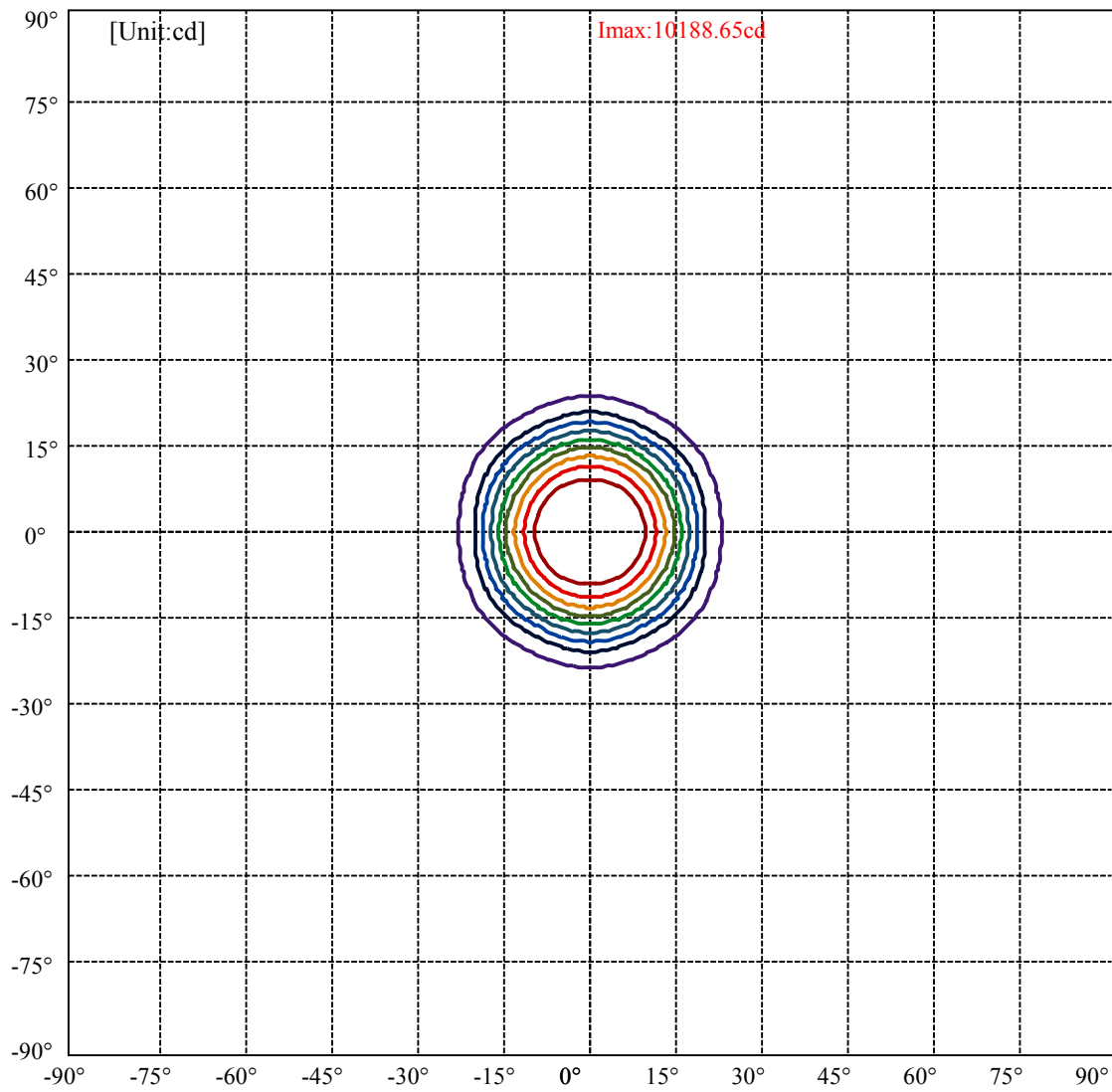
:C90/270Left:23.4 Right:23.4

Beam Angle(50%Imax):C0/180Left:17.7 Right:13.7

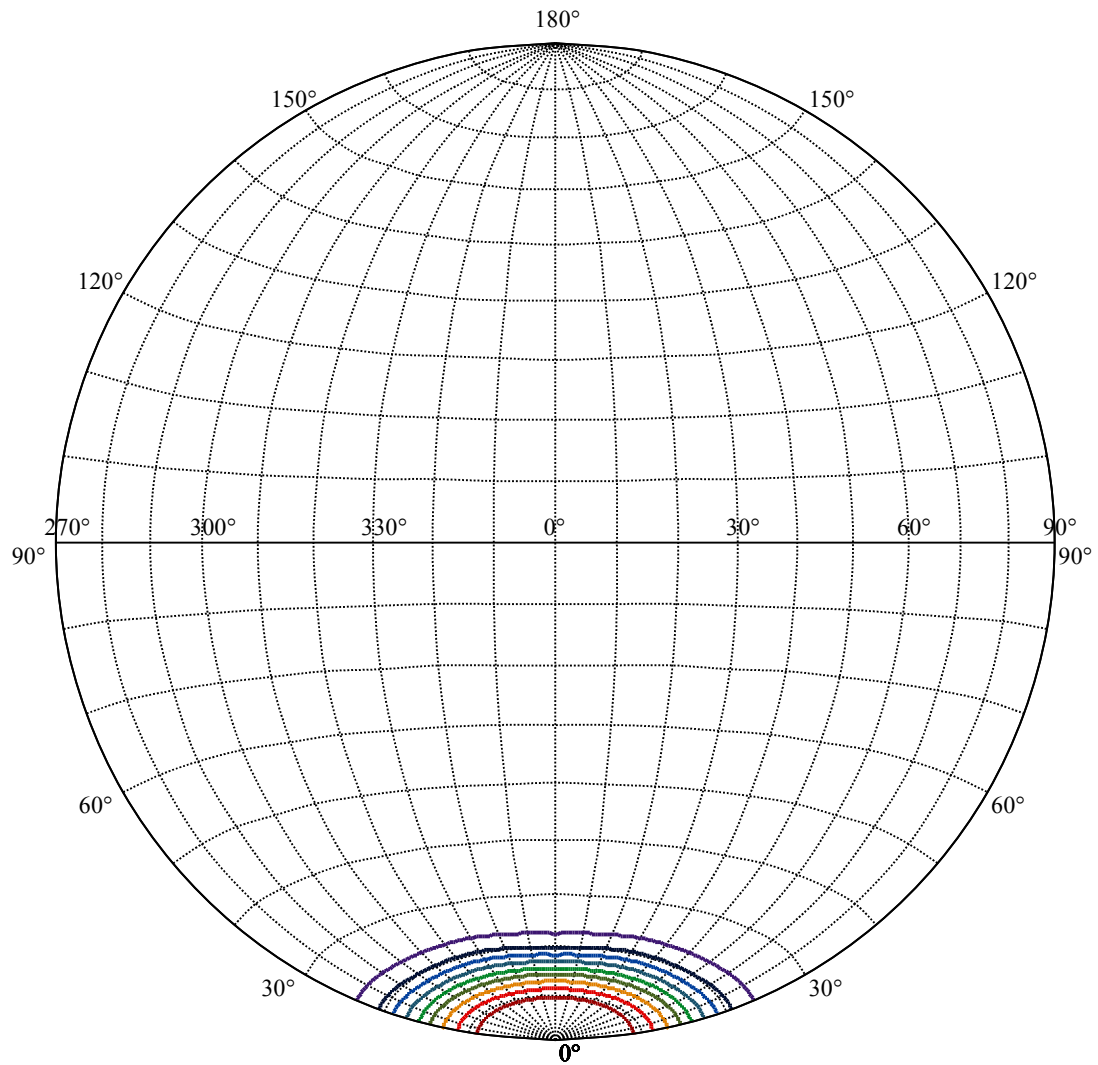
:C90/270Left:15.9 Right:15.9



Max , Ave Beam angle of C90 plane 31.77



(10%Imax) 1018.87	—
(20%Imax) 2037.73	—
(30%Imax) 3056.6	—
(40%Imax) 4075.46	—
(50%Imax) 5094.33	—
(60%Imax) 6113.19	—
(70%Imax) 7132.06	—
(80%Imax) 8150.92	—
(90%Imax) 9169.79	—



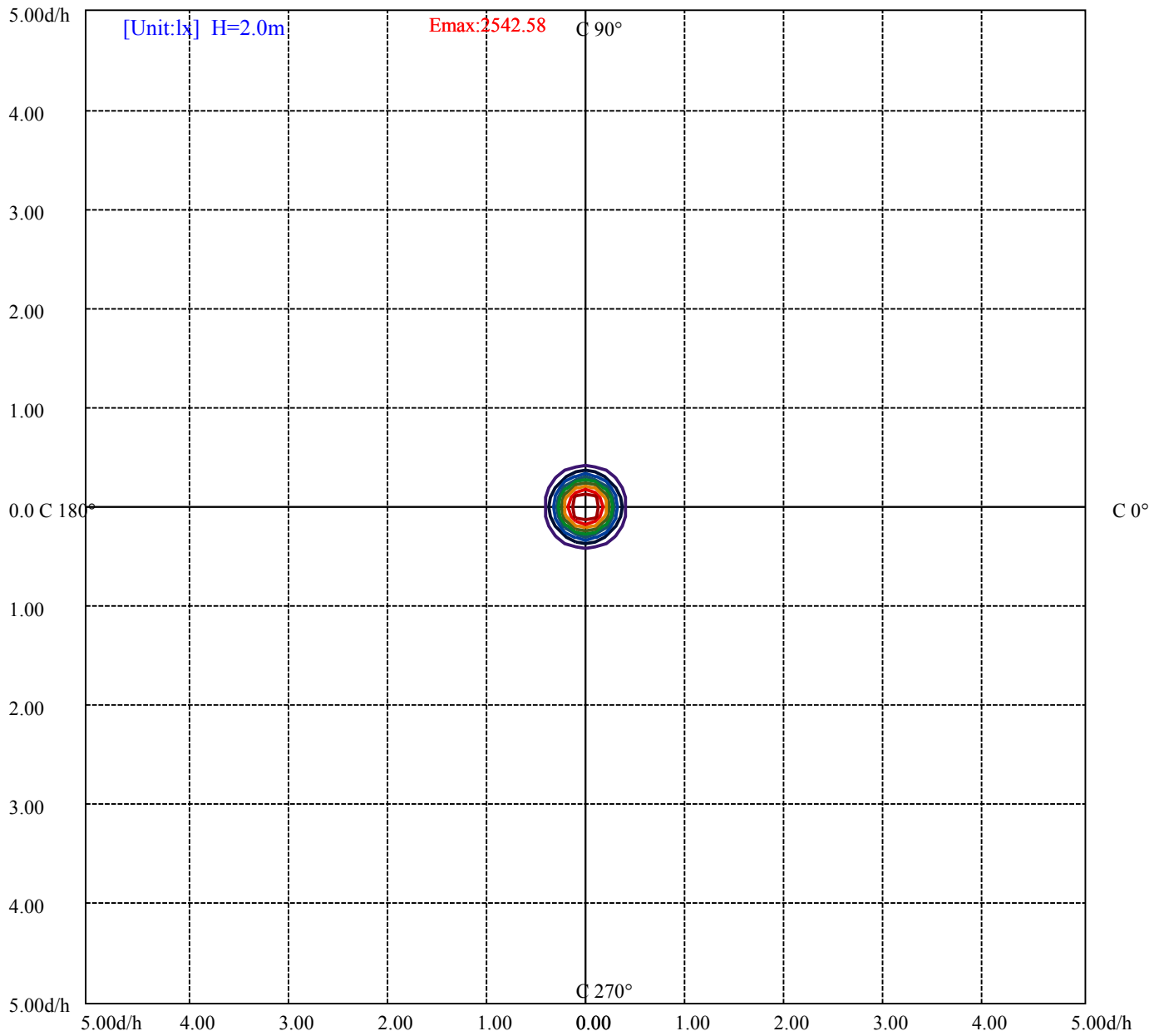
House

[Unit:cd]

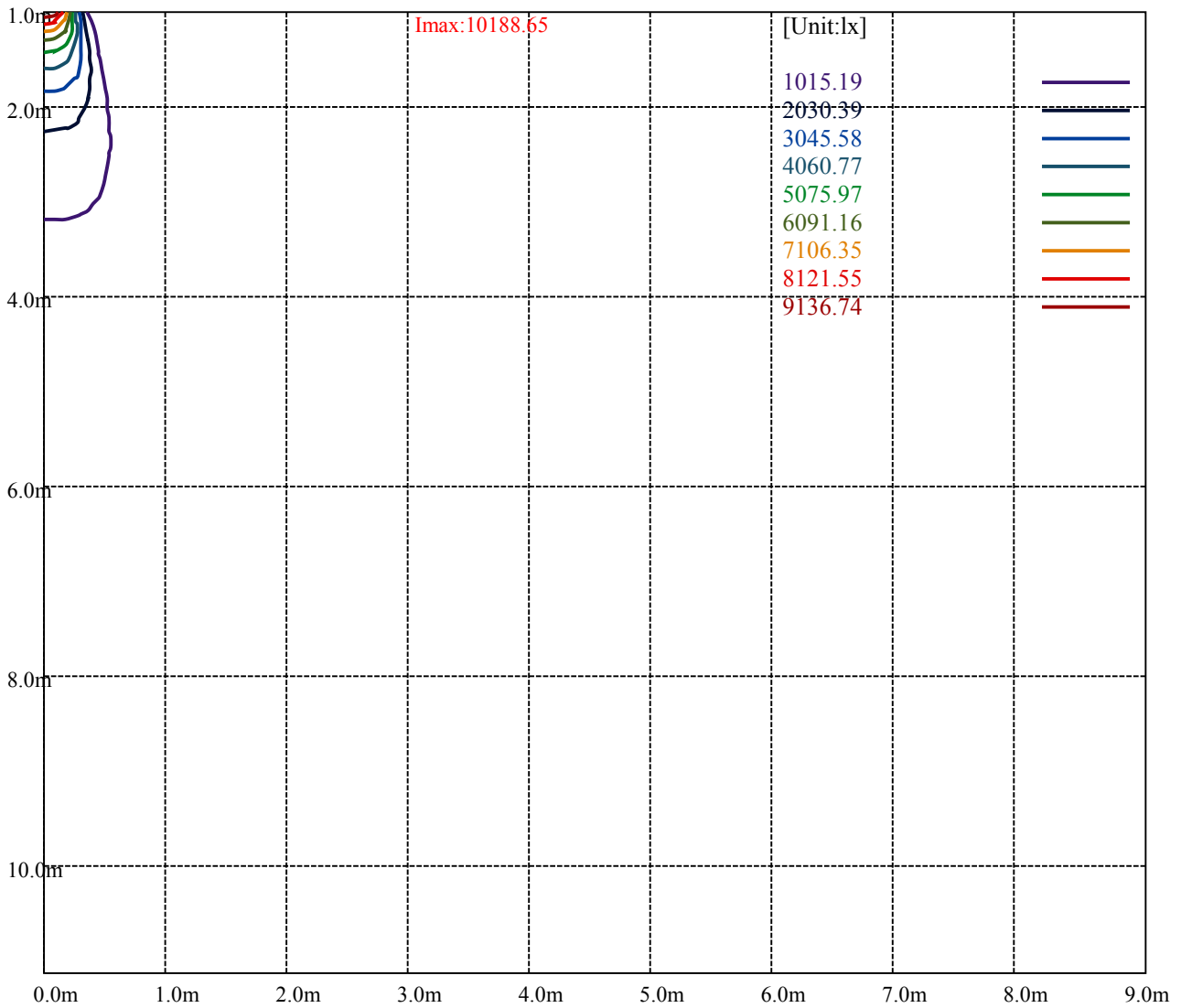
Road

Imax:10188.65

(10%Imax) 1018.87	—
(20%Imax) 2037.73	—
(30%Imax) 3056.6	—
(40%Imax) 4075.46	—
(50%Imax) 5094.33	—
(60%Imax) 6113.19	—
(70%Imax) 7132.06	—
(80%Imax) 8150.92	—
(90%Imax) 9169.79	—



- (10%Emax) 254.2575
- (20%Emax) 508.515
- (30%Emax) 762.7725
- (40%Emax) 1017.03
- (50%Emax) 1271.287
- (60%Emax) 1525.545
- (70%Emax) 1779.802
- (80%Emax) 2034.06
- (90%Emax) 2288.317



Luminance Limiting Curve(luminous side)

Luminance Table

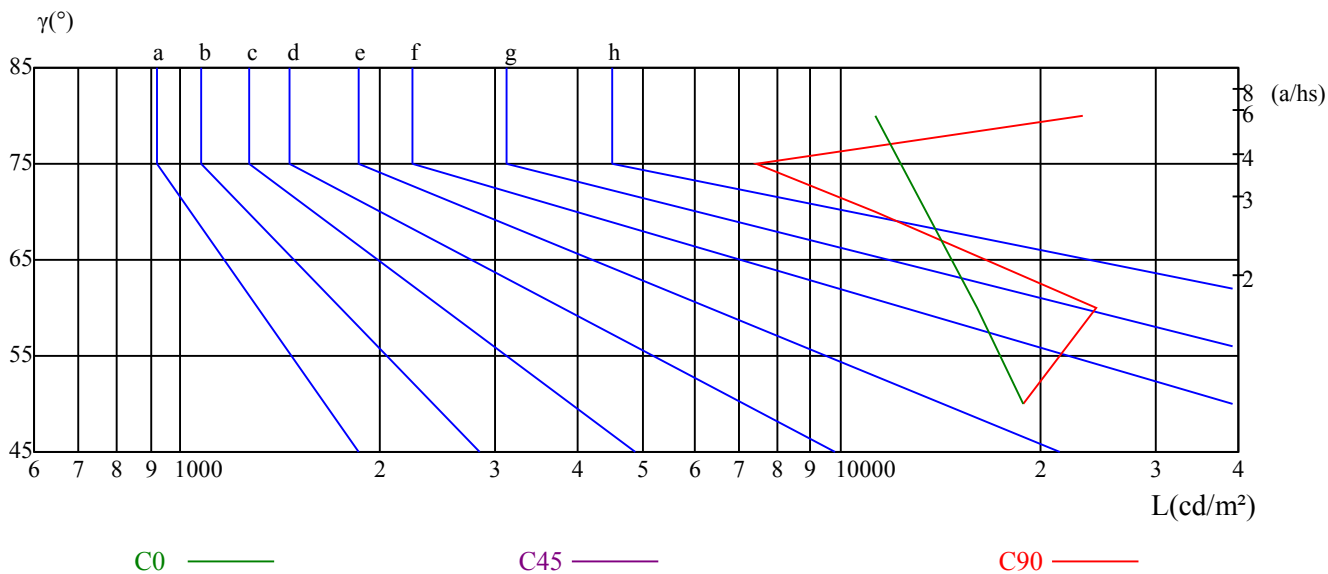
γ	45	50	55	60	65	70	75	80	85
C0	0	18944	0	16042	0	0	0	11248	0
C45	0	0	0	0	0	0	0	0	0
C90	0	18944	0	24354	0	11300	7467	23215	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

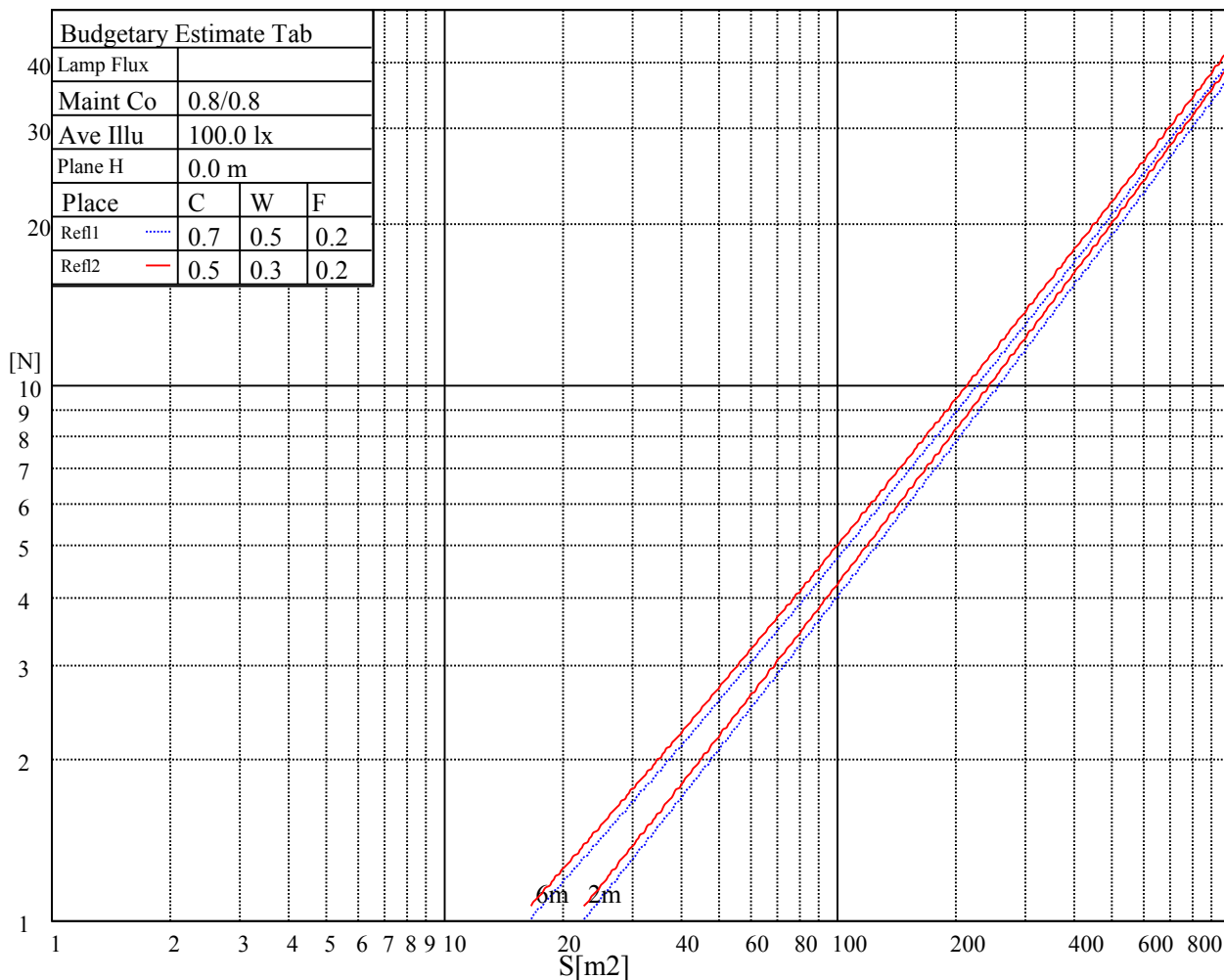
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

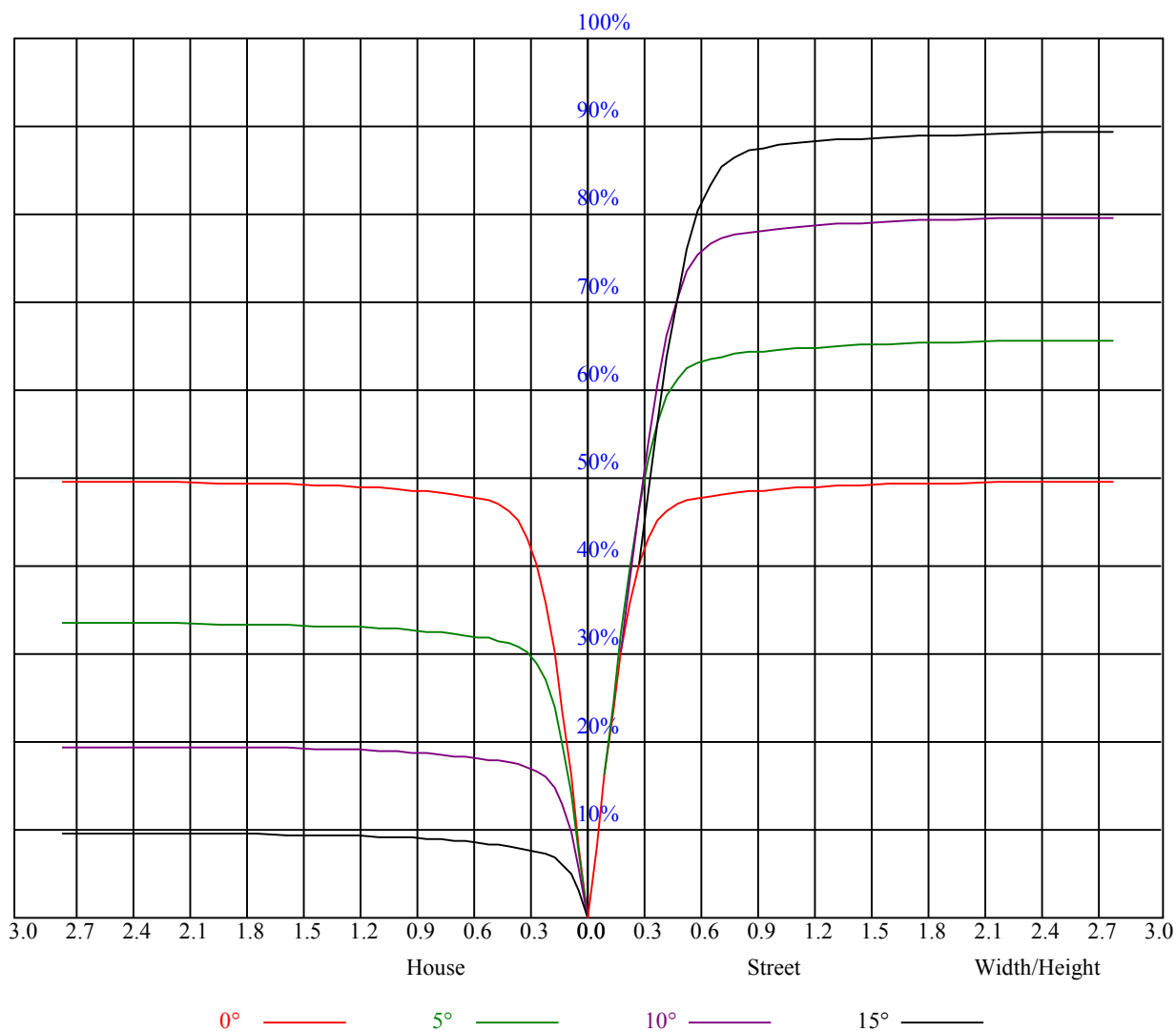


Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	14.70	15.65	15.07	15.96	16.28	15.26	16.21	15.63	16.52	16.84
	3H	15.71	16.55	16.09	16.89	17.24	16.03	16.87	16.41	17.21	17.56
	4H	16.61	17.39	17.01	17.74	18.11	16.14	16.92	16.54	17.28	17.65
	6H	17.36	18.08	17.78	18.45	18.85	17.11	17.82	17.53	18.20	18.60
	8H	17.96	18.64	18.38	19.03	19.43	17.44	18.12	17.86	18.50	18.91
	12H	18.66	19.31	19.09	19.70	20.12	17.73	18.38	18.16	18.77	19.19
4H	2H	15.25	16.03	15.65	16.39	16.76	15.67	16.45	16.07	16.81	17.18
	3H	16.23	16.89	16.66	17.29	17.70	16.45	17.11	16.88	17.51	17.93
	4H	17.32	17.89	17.76	18.31	18.76	16.75	17.32	17.19	17.74	18.19
	6H	18.13	18.64	18.61	19.09	19.54	17.82	18.32	18.30	18.78	19.23
	8H	18.94	19.40	19.43	19.86	20.34	18.34	18.80	18.83	19.26	19.74
	12H	19.87	20.29	20.36	20.75	21.27	18.79	19.21	19.28	19.67	20.19
8H	4H	17.37	17.83	17.86	18.29	18.77	16.84	17.31	17.33	17.76	18.24
	6H	18.43	18.81	18.94	19.29	19.80	18.14	18.52	18.64	19.00	19.51
	8H	19.58	19.89	20.11	20.42	20.91	19.02	19.33	19.55	19.86	20.35
	12H	20.81	21.05	21.35	21.57	22.09	19.67	19.91	20.21	20.43	20.95
12H	4H	17.40	17.83	17.89	18.28	18.80	16.90	17.32	17.39	17.78	18.30
	6H	18.65	18.97	19.19	19.49	19.99	18.39	18.71	18.93	19.23	19.73
	8H	19.90	20.14	20.45	20.66	21.19	19.34	19.58	19.88	20.10	20.62
Variation with the observer position at spacings:											
S = 1.0H	0.6/-0.8					0.4/-1.7					
S = 1.5H	0.5/-1.3					1.6/-1.4					
S = 2.0H	1.3/-1.1					0.9/-1.3					
Standard tables:	BKBF					BKBF					
Uncorrected UGR	3.1					3.7					

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	1.12	1.10	1.08	1.10	1.08	1.07	1.06	1.05	1.03	1.02	1.01	1.00	0.99	0.98	0.97	0.96
2	1.07	1.03	1.01	1.05	1.02	1.00	1.02	0.99	0.97	0.99	0.97	0.95	0.96	0.95	0.93	0.92
3	1.02	0.98	0.95	1.00	0.97	0.94	0.98	0.95	0.93	0.96	0.93	0.91	0.94	0.92	0.90	0.89
4	0.98	0.93	0.90	0.96	0.93	0.90	0.94	0.91	0.89	0.93	0.90	0.88	0.91	0.89	0.87	0.85
5	0.94	0.89	0.86	0.93	0.89	0.86	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.86	0.84	0.83
6	0.90	0.86	0.83	0.90	0.86	0.83	0.88	0.85	0.82	0.87	0.84	0.82	0.86	0.83	0.81	0.80
7	0.87	0.83	0.80	0.87	0.83	0.80	0.86	0.82	0.79	0.85	0.81	0.79	0.84	0.81	0.79	0.78
8	0.85	0.80	0.77	0.84	0.80	0.77	0.83	0.80	0.77	0.82	0.79	0.77	0.81	0.79	0.76	0.75
9	0.82	0.78	0.75	0.82	0.78	0.75	0.81	0.77	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.73
10	0.80	0.76	0.73	0.79	0.75	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71



Intensity data(cd)

C/ γ (°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	10151.93	10151.93	10124.39	9995.87	9683.75	9031.96	7774.28	6516.60	4809.10
30.0	10161.11	10170.29	10092.26	9949.97	9651.62	8986.06	7746.74	6411.03	4877.95
60.0	10179.47	10151.93	10050.95	9876.53	9591.95	8885.08	7778.87	6411.03	4877.95
90.0	10188.65	10142.75	9995.87	9812.27	9490.96	8866.72	7783.46	6534.96	4983.52
120.0	10179.47	10151.93	10050.95	9876.53	9591.95	8885.08	7778.87	6411.03	4877.95
150.0	10161.11	10170.29	10092.26	9949.97	9651.62	8986.06	7746.74	6411.03	4877.95
180.0	10151.93	10151.93	10124.39	9995.87	9683.75	9031.96	7774.28	6516.60	4809.10
210.0	10161.11	10170.29	10092.26	9949.97	9651.62	8986.06	7746.74	6411.03	4877.95
240.0	10179.47	10151.93	10050.95	9876.53	9591.95	8885.08	7778.87	6411.03	4877.95
270.0	10188.65	10142.75	9995.87	9812.27	9490.96	8866.72	7783.46	6534.96	4983.52
300.0	10179.47	10151.93	10050.95	9876.53	9591.95	8885.08	7778.87	6411.03	4877.95
330.0	10161.11	10170.29	10092.26	9949.97	9651.62	8986.06	7746.74	6411.03	4877.95
360.0	10151.93	10151.93	10124.39	9995.87	9683.75	9031.96	7774.28	6516.60	4809.10
C/ γ (°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	3321.92	1908.18	1146.23	678.04	375.10	246.58	191.50	145.60	136.42
30.0	3606.50	2238.67	1361.96	765.26	448.54	264.94	196.09	173.14	136.42
60.0	3409.13	2105.55	1283.93	723.94	421.00	251.17	173.14	145.60	122.65
90.0	3689.13	2358.01	1467.53	843.29	439.36	264.94	173.14	145.60	108.88
120.0	3409.13	2105.55	1283.93	723.94	421.00	251.17	173.14	145.60	122.65
150.0	3606.50	2238.67	1361.96	765.26	448.54	264.94	196.09	173.14	136.42
180.0	3321.92	1908.18	1146.23	678.04	375.10	246.58	191.50	145.60	136.42
210.0	3606.50	2238.67	1361.96	765.26	448.54	264.94	196.09	173.14	136.42
240.0	3409.13	2105.55	1283.93	723.94	421.00	251.17	173.14	145.60	122.65
270.0	3689.13	2358.01	1467.53	843.29	439.36	264.94	173.14	145.60	108.88
300.0	3409.13	2105.55	1283.93	723.94	421.00	251.17	173.14	145.60	122.65
330.0	3606.50	2238.67	1361.96	765.26	448.54	264.94	196.09	173.14	136.42
360.0	3321.92	1908.18	1146.23	678.04	375.10	246.58	191.50	145.60	136.42
C/ γ (°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	99.70	90.52	62.98	62.98	53.80	62.98	44.62	53.80	35.44
30.0	108.88	104.29	72.16	72.16	58.39	53.80	53.80	53.80	40.03
60.0	99.70	81.34	76.75	62.98	58.39	53.80	62.98	53.80	44.62
90.0	99.70	81.34	72.16	81.34	62.98	72.16	44.62	53.80	53.80
120.0	99.70	81.34	76.75	62.98	58.39	53.80	62.98	53.80	44.62
150.0	108.88	104.29	72.16	72.16	58.39	53.80	53.80	53.80	40.03
180.0	99.70	90.52	62.98	62.98	53.80	62.98	44.62	53.80	35.44
210.0	108.88	104.29	72.16	72.16	58.39	53.80	53.80	53.80	40.03
240.0	99.70	81.34	76.75	62.98	58.39	53.80	62.98	53.80	44.62
270.0	99.70	81.34	72.16	81.34	62.98	72.16	44.62	53.80	53.80
300.0	99.70	81.34	76.75	62.98	58.39	53.80	62.98	53.80	44.62
330.0	108.88	104.29	72.16	72.16	58.39	53.80	53.80	53.80	40.03
360.0	99.70	90.52	62.98	62.98	53.80	62.98	44.62	53.80	35.44
C/ γ (°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	35.44	35.44	44.62	35.44	26.26	35.44	35.44	17.08	0.00
30.0	53.80	44.62	40.03	35.44	30.85	30.85	30.85	21.67	17.08
60.0	44.62	49.21	49.21	40.03	30.85	35.44	26.26	17.08	17.08
90.0	53.80	53.80	35.44	53.80	35.44	26.26	26.26	17.08	17.08
120.0	44.62	49.21	49.21	40.03	30.85	35.44	26.26	17.08	17.08
150.0	53.80	44.62	40.03	35.44	30.85	30.85	30.85	21.67	17.08
180.0	35.44	35.44	44.62	35.44	26.26	35.44	35.44	17.08	0.00
210.0	53.80	44.62	40.03	35.44	30.85	30.85	30.85	21.67	17.08
240.0	44.62	49.21	49.21	40.03	30.85	35.44	26.26	17.08	17.08
270.0	53.80	53.80	35.44	53.80	35.44	26.26	26.26	17.08	17.08
300.0	44.62	49.21	49.21	40.03	30.85	35.44	26.26	17.08	17.08
330.0	53.80	44.62	40.03	35.44	30.85	30.85	30.85	21.67	17.08
360.0	35.44	35.44	44.62	35.44	26.26	35.44	35.44	17.08	0.00

Intensity data(cd)

C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	0.00	26.26	26.26	17.08	8.63	17.08	17.08	0.00	17.08
30.0	8.63	17.08	12.85	8.63	12.85	12.85	17.08	8.63	8.63
60.0	8.63	17.08	8.63	8.63	8.63	17.44	8.63	12.85	12.85
90.0	8.63	0.00	17.08	17.08	17.81	8.63	8.63	8.63	0.00
120.0	8.63	17.08	8.63	8.63	8.63	17.44	8.63	12.85	12.85
150.0	8.63	17.08	12.85	8.63	12.85	12.85	17.08	8.63	8.63
180.0	0.00	26.26	26.26	17.08	8.63	17.08	17.08	0.00	17.08
210.0	8.63	17.08	12.85	8.63	12.85	12.85	17.08	8.63	8.63
240.0	8.63	17.08	8.63	8.63	8.63	17.44	8.63	12.85	12.85
270.0	8.63	0.00	17.08	17.08	17.81	8.63	8.63	8.63	0.00
300.0	8.63	17.08	8.63	8.63	8.63	17.44	8.63	12.85	12.85
330.0	8.63	17.08	12.85	8.63	12.85	12.85	17.08	8.63	8.63
360.0	0.00	26.26	26.26	17.08	8.63	17.08	17.08	0.00	17.08

C/γ(°)	90.0
0.0	17.08
30.0	12.85
60.0	4.22
90.0	17.08
120.0	4.22
150.0	12.85
180.0	17.08
210.0	12.85
240.0	4.22
270.0	17.08
300.0	4.22
330.0	12.85
360.0	17.08