



立讯检测
Testing Laboratories

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SHENZHEN YOUWIN OPTRONICS CO., LTD

LumCAT: YWHBFM-230H-AL080

Luminaire: LED High Bay Light

Report No:

Voltage(V): 229.400

Test No:

Current(A): 1.015

LampCAT: LED

Power (W): 227.900

Lamp flux(lm)

PF: 0.979

Number of Lamps: 1

Ballast type: -

Length(mm): 420

Width(mm): 420

Phm Type: C

Height(mm): 520

Photometric Results

Lumens(lm): 22326.76

Lumens(lm)/Power(W): 97.97

Central intensity(cd): 18453.690

Maximum intensity(cd): 18468.180

Angle of maximum intensity: C=30.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Left=36.4 Right=36.3

[C90/270]Left=36.3 Right=36.5

Field angle(10%Imax): [C0/180]Left=47.5 Right=46.9

[C90/270]Left=47.3 Right=47.1

Beam angle of C30plane: 72.74

Maximum s/h: C0_180=0.98 C90_270=1.00

Up flux rate of LUM(%): 0.81%

Down flux rate of LUM(%): 99.19%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 95.202%

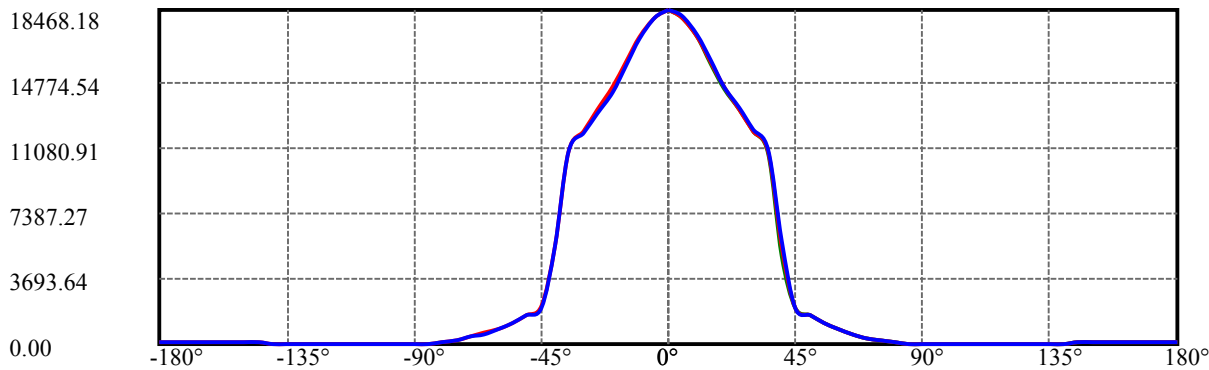
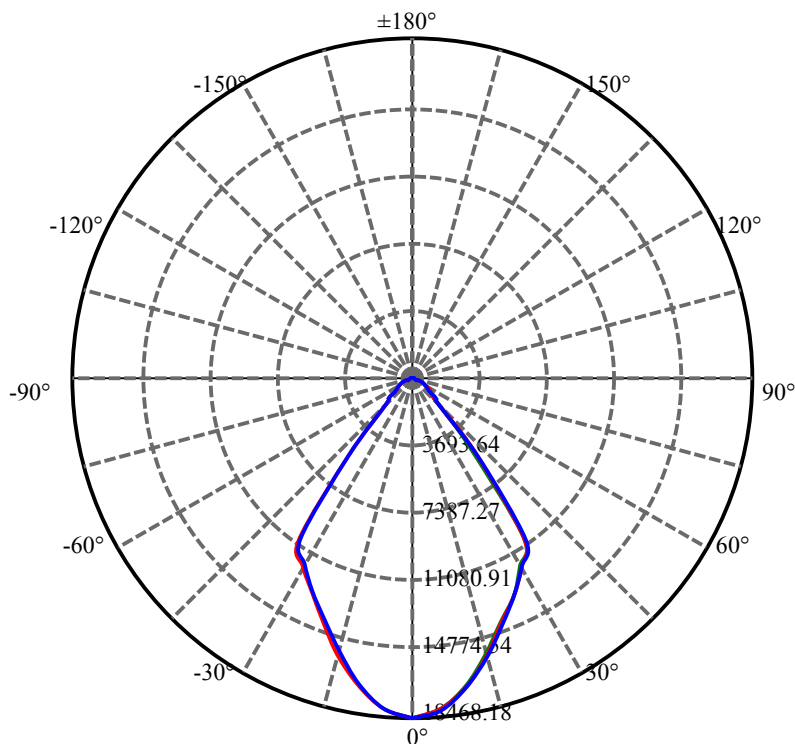
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	18450.610	.000	.000	.000%	.000%
5.0	18053.810	436.400	436.400	1.955%	1.955%
10.0	16991.140	1253.668	1690.068	5.615%	7.570%
15.0	15585.160	1932.404	3622.472	8.655%	16.225%
20.0	14160.940	2451.497	6073.969	10.980%	27.205%
25.0	12989.110	2847.539	8921.508	12.754%	39.959%
30.0	11827.050	3140.505	12062.010	14.066%	54.025%
35.0	10616.550	3304.976	15366.990	14.803%	68.828%
40.0	5443.229	2679.453	18046.440	12.001%	80.829%
45.0	2079.762	1392.943	19439.380	6.239%	87.068%
50.0	1586.712	740.865	20180.250	3.318%	90.386%
55.0	1188.486	603.421	20783.670	2.703%	93.089%
60.0	853.167	471.922	21255.590	2.114%	95.202%
65.0	584.425	349.481	21605.070	1.565%	96.768%
70.0	371.726	242.103	21847.180	1.084%	97.852%
75.0	220.936	154.912	22002.090	.694%	98.546%
80.0	112.868	89.316	22091.400	.400%	98.946%
85.0	41.657	41.988	22133.390	.188%	99.134%
90.0	1.724	11.878	22145.270	.053%	99.187%
95.0	2.120	1.052	22146.320	.005%	99.192%
100.0	2.932	1.373	22147.700	.006%	99.198%
105.0	3.954	1.843	22149.540	.008%	99.206%
110.0	5.985	2.598	22152.140	.012%	99.218%
115.0	10.346	4.135	22156.270	.019%	99.236%
120.0	16.441	6.512	22162.780	.029%	99.266%
125.0	24.041	9.357	22172.140	.042%	99.307%
130.0	32.794	12.358	22184.500	.055%	99.363%
135.0	41.283	14.968	22199.470	.067%	99.430%
140.0	50.443	16.984	22216.450	.076%	99.506%
145.0	60.316	18.479	22234.930	.083%	99.589%
150.0	70.134	19.210	22254.140	.086%	99.675%
155.0	78.734	18.839	22272.980	.084%	99.759%
160.0	86.378	17.317	22290.290	.078%	99.837%
165.0	95.394	14.981	22305.280	.067%	99.904%
170.0	100.962	11.648	22316.920	.052%	99.956%
175.0	103.895	7.328	22324.250	.033%	99.989%
180.0	105.938	2.508	22326.760	.011%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	12062.01	54.02%
0-40	18046.44	80.83%
0-60	21255.59	95.20%
0-90	22145.27	99.19%
0-120	22162.78	99.27%
0-180	22326.76	100.00%
60-90	1361.60	6.10%
90-120	29.39	0.13%
90-130	51.11	0.23%
90-150	120.75	0.54%
90-180	190.86	0.85%
0-39.65	17861.41	80.00%

ZONAL LUMEN SUMMARY

0-10	1690.07
10-20	4383.90
20-30	5988.04
30-40	5984.43
40-50	2133.81
50-60	1075.34
60-70	591.58
70-80	244.23
80-90	53.87
90-100	2.43
100-110	4.44
110-120	10.65
120-130	21.71
130-140	31.95
140-150	37.69
150-160	36.16
160-170	26.63
170-180	7.33



C30(Max): ———

C0/C180: ———

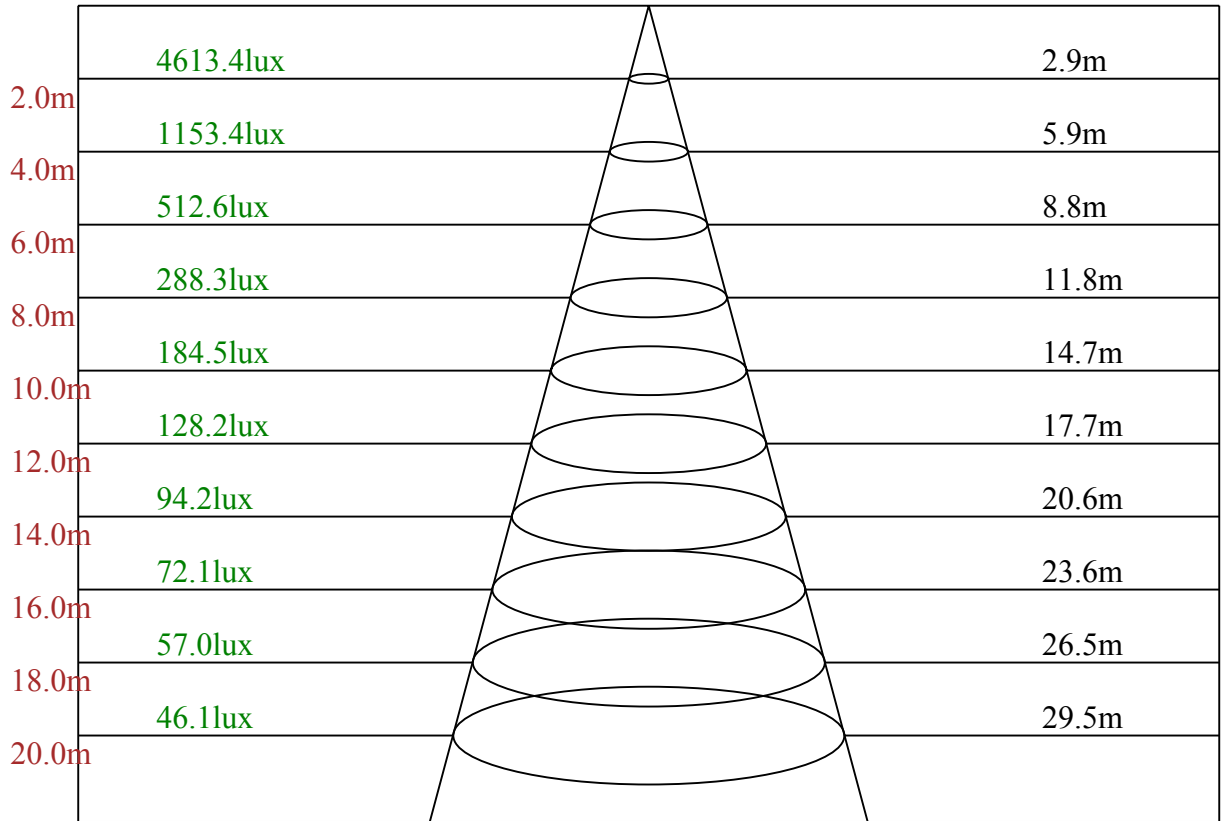
C90/C270: ———

Field angle(10%Imax):C0/180Left:47.5 Right:46.9

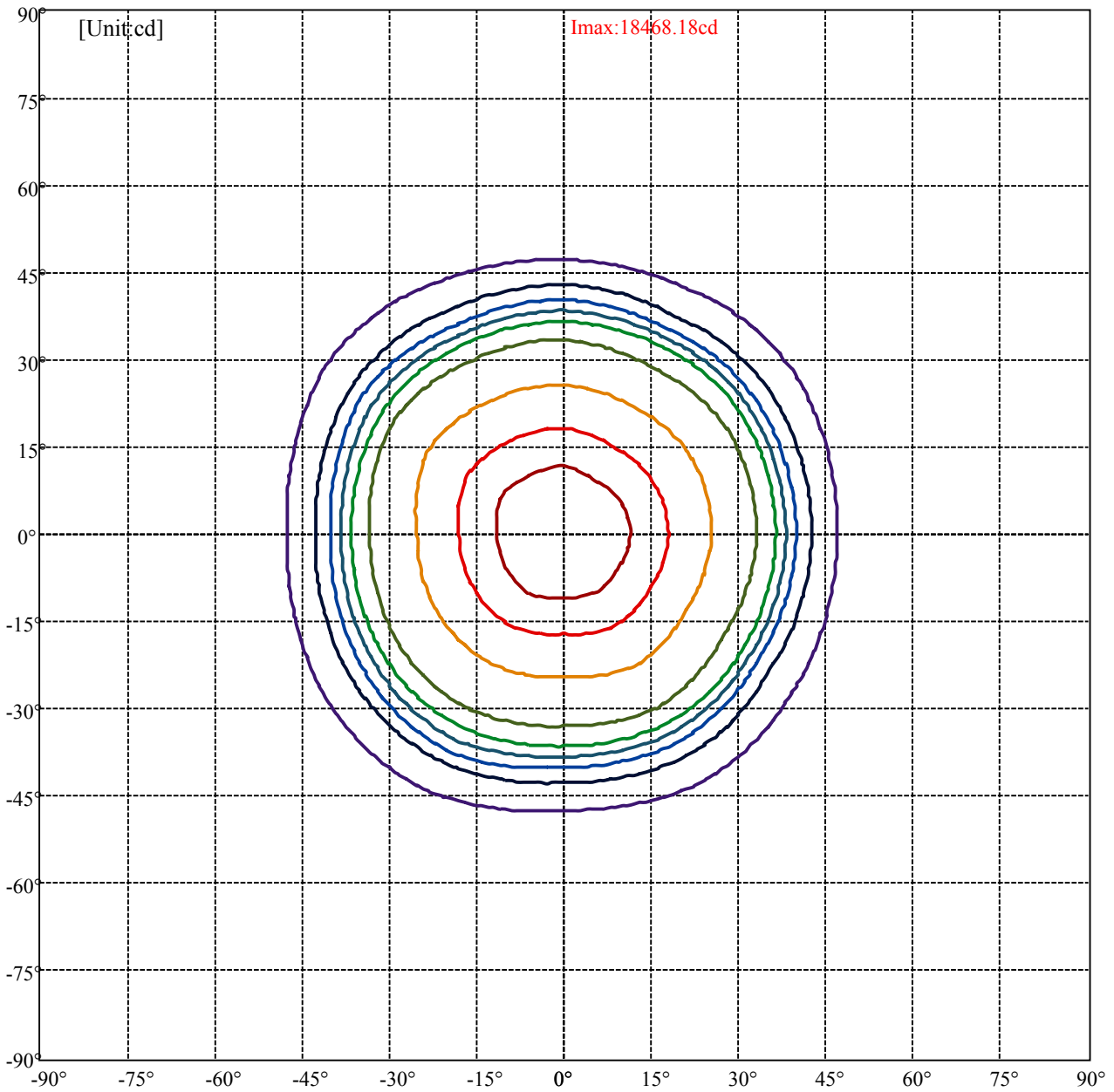
:C90/270Left:47.3 Right:47.1

Beam Angle(50%Imax):C0/180Left:36.4 Right:36.3

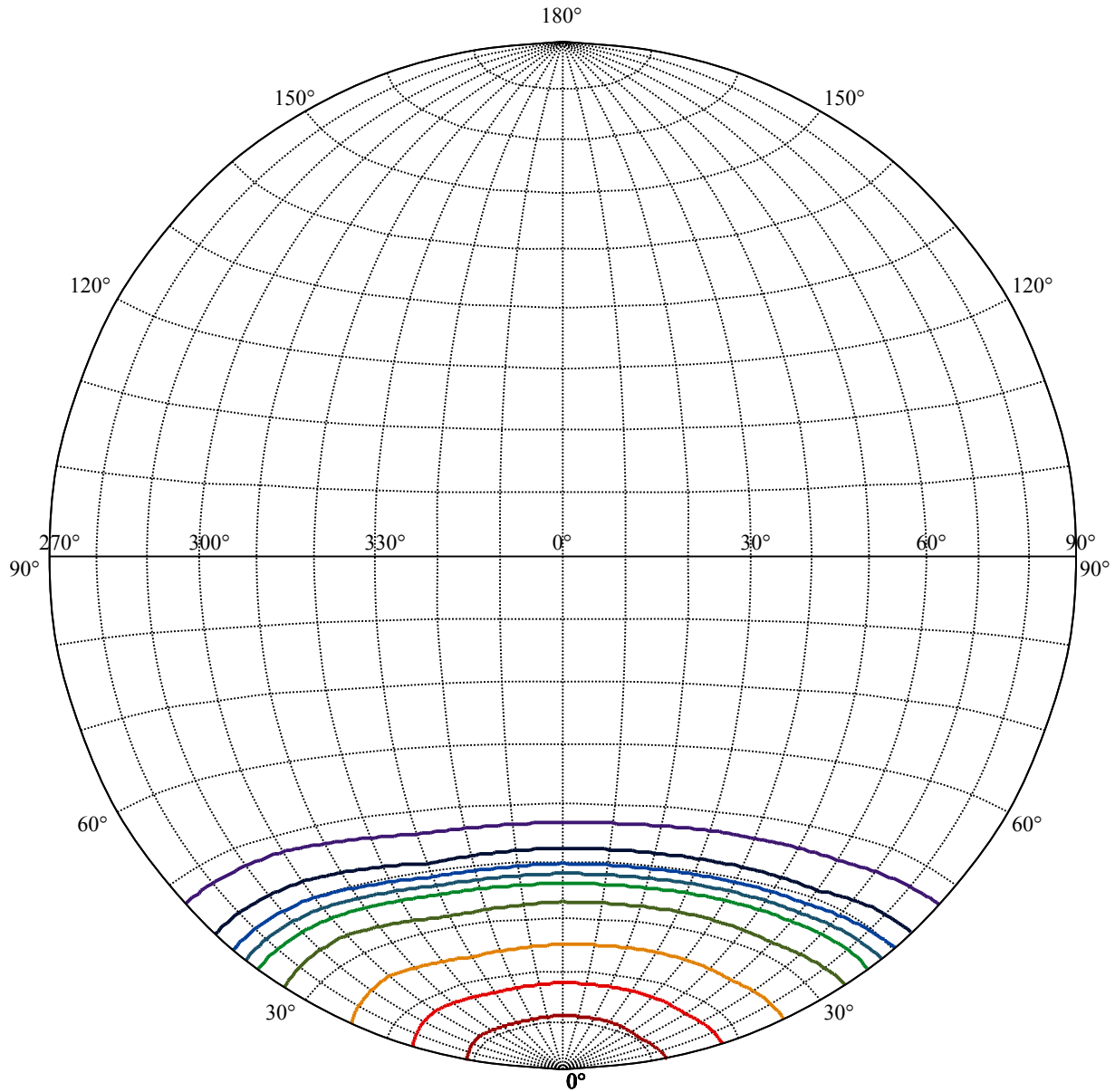
:C90/270Left:36.3 Right:36.5



Beam angle of C30plane72.74













(10%Imax) 1844.18	—
(20%Imax) 3688.36	—
(30%Imax) 5532.55	—
(40%Imax) 7376.73	—
(50%Imax) 9220.91	—
(60%Imax) 11065.1	—
(70%Imax) 12909.3	—
(80%Imax) 14753.5	—
(90%Imax) 16597.6	—

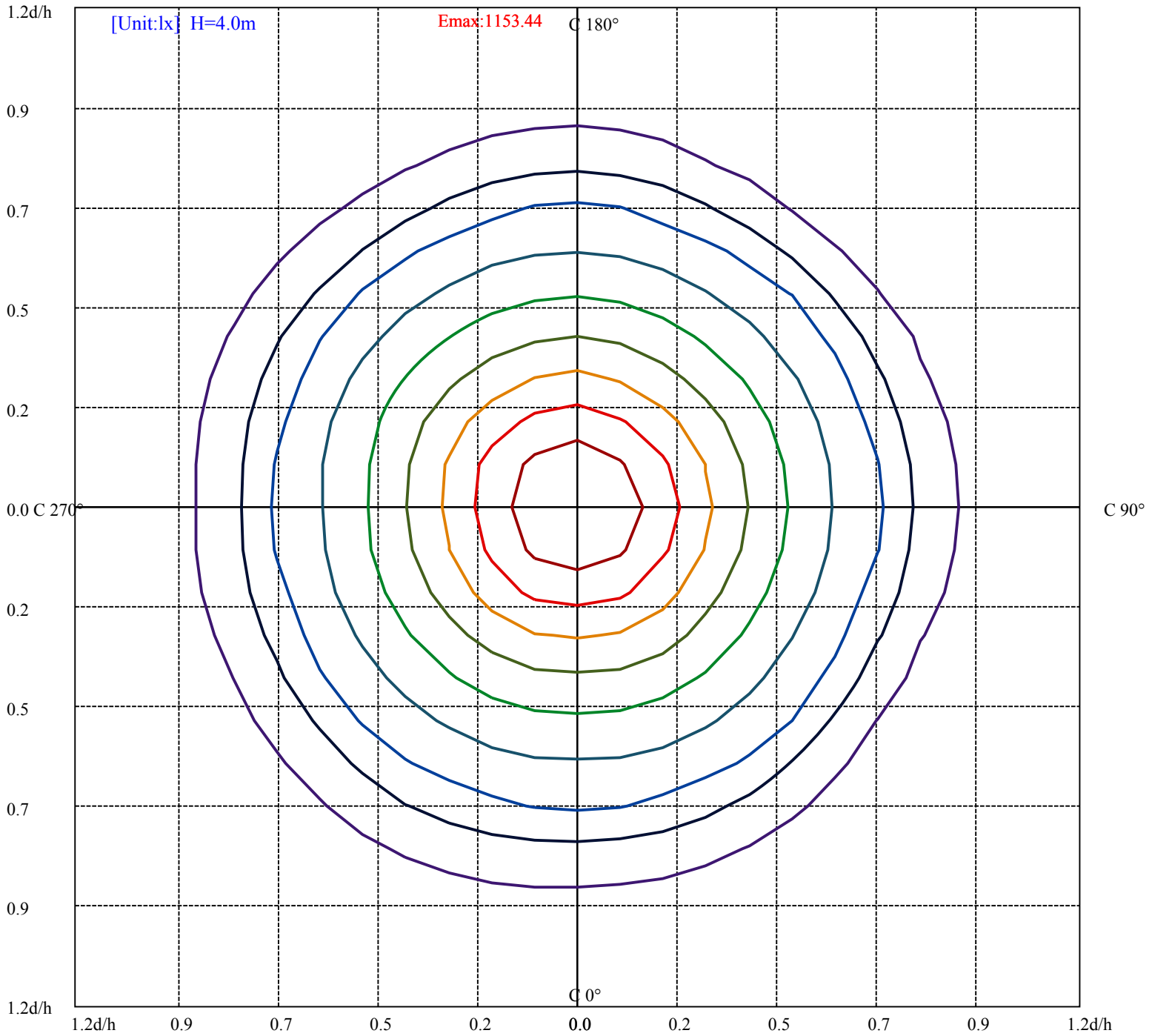


House

[Unit:cd]

Road

I_{max}:18468.18	
(10%I _{max}) 1846.82	
(20%I _{max}) 3693.64	
(30%I _{max}) 5540.45	
(40%I _{max}) 7387.27	
(50%I _{max}) 9234.09	
(60%I _{max}) 11080.9	
(70%I _{max}) 12927.7	
(80%I _{max}) 14774.5	
(90%I _{max}) 16621.4	

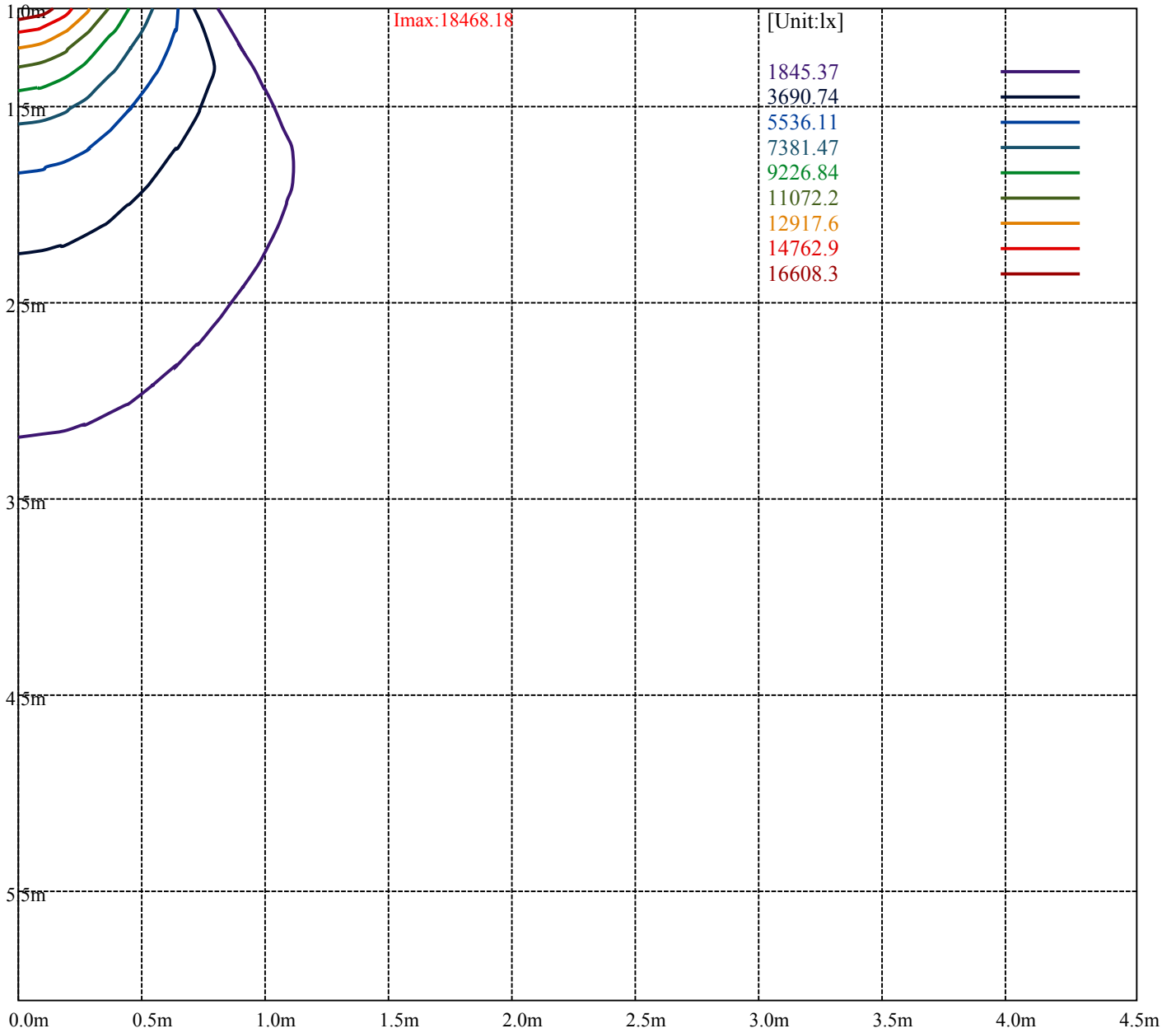


- (10%Emax) 115.3438
- (20%Emax) 230.6875
- (30%Emax) 346.0313
- (40%Emax) 461.3744
- (50%Emax) 576.7181
- (60%Emax) 692.0625
- (70%Emax) 807.4063
- (80%Emax) 922.75
- (90%Emax) 1038.094

Equipment: GMS-1800B
 Temperature(°C): 25.0

Date: 2015-4-29
 Humidity(%): 50.0%

Operator: Marine
 Distance(m): 11.48



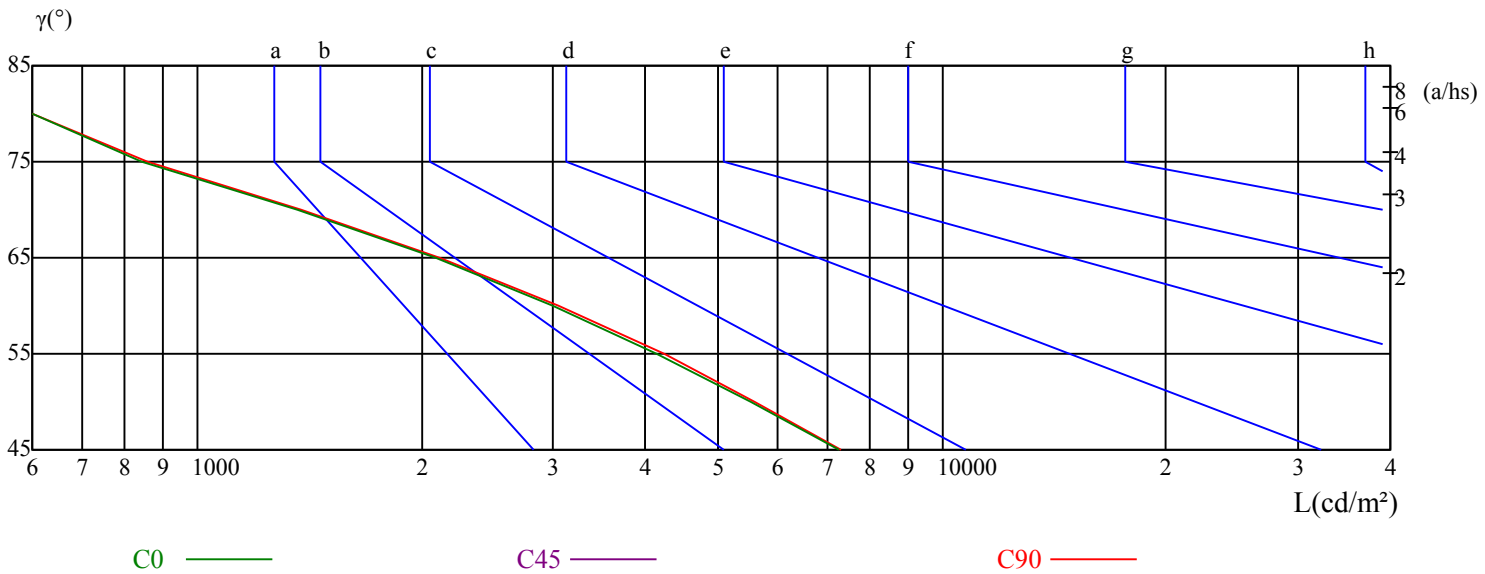
Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	7257	5532	4128	3005	2085	1360	840	438	177
C45	0	0	0	0	0	0	0	0	0
C90	7333	5598	4232	3047	2115	1382	856	461	183

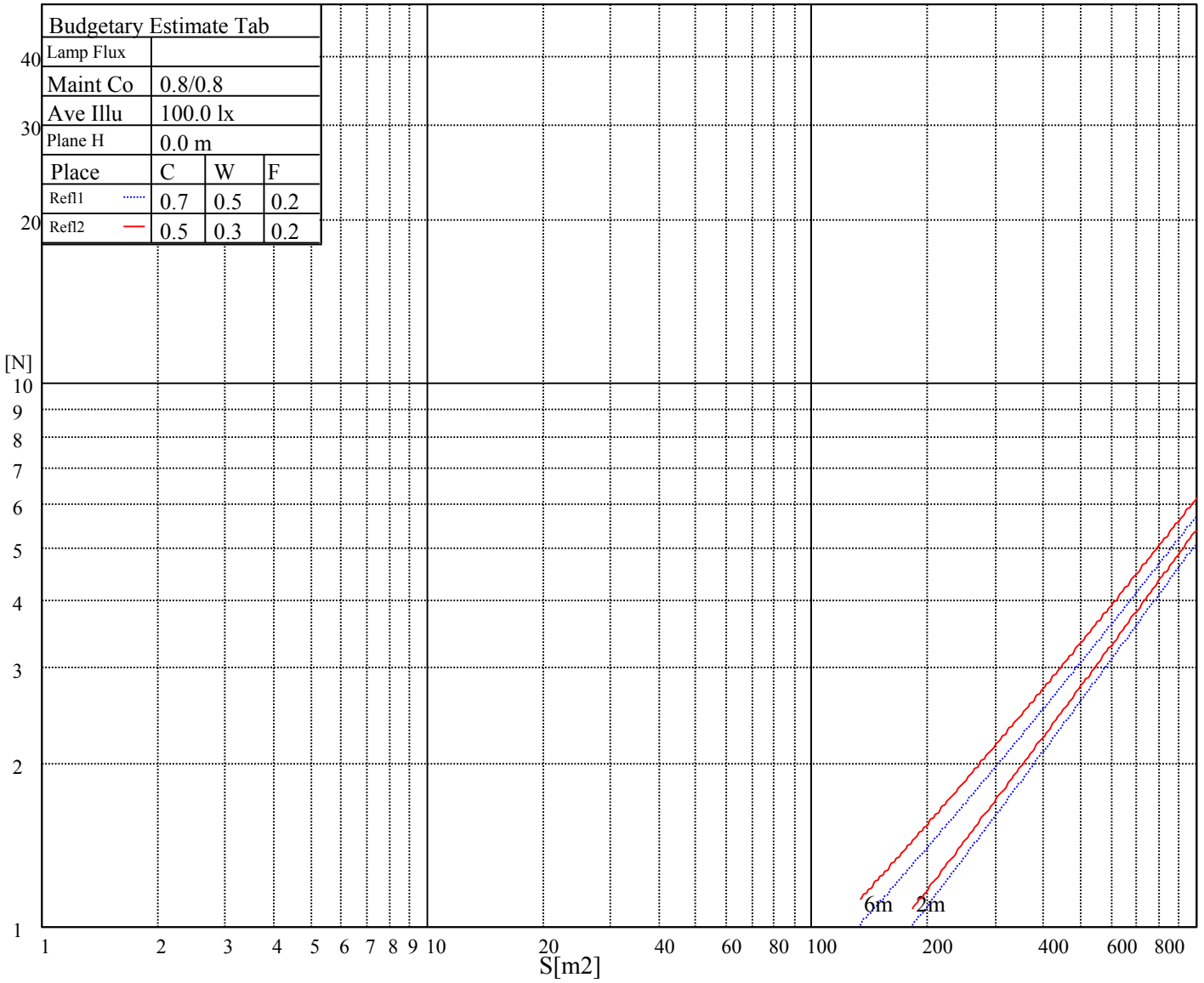
Glare Table

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



Illuminatin 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	5.1	6.1	5.3	6.3	6.5	5.0	6.0	5.3	6.2	6.4
	3H	5.1	6.0	5.5	6.3	6.6	5.1	6.0	5.4	6.2	6.5
	4H	5.0	5.8	5.4	6.1	6.4	5.0	5.7	5.3	6.0	6.3
	6H	5.1	5.8	5.4	6.1	6.5	5.0	5.7	5.4	6.1	6.4
	8H	5.1	5.8	5.5	6.1	6.5	5.0	5.7	5.4	6.1	6.4
	12H	4.9	5.4	5.3	5.8	6.3	4.8	5.4	5.3	5.8	6.2
4H	2H	4.9	5.6	5.2	5.9	6.3	4.8	5.5	5.2	5.8	6.2
	3H	5.0	5.6	5.4	6.0	6.4	4.9	5.5	5.4	5.9	6.3
	4H	5.1	5.7	5.6	6.1	6.5	5.0	5.6	5.5	6.0	6.4
	6H	5.2	5.7	5.6	6.1	6.5	5.1	5.7	5.5	6.1	6.5
	8H	5.0	5.3	5.5	5.8	6.3	4.9	5.2	5.4	5.7	6.2
	12H	5.0	5.3	5.5	5.8	6.3	4.9	5.2	5.4	5.7	6.2
8H	4H	5.0	5.3	5.5	5.8	6.3	4.9	5.2	5.4	5.7	6.2
	6H	5.1	5.4	5.6	5.8	6.4	5.0	5.3	5.5	5.8	6.3
	8H	5.1	5.4	5.6	5.9	6.4	5.0	5.3	5.5	5.8	6.3
	12H	5.1	5.4	5.6	5.9	6.4	5.0	5.3	5.5	5.8	6.3
12H	4H	5.0	5.3	5.5	5.8	6.3	4.9	5.2	5.4	5.7	6.2
	6H	5.1	5.4	5.6	5.8	6.4	5.0	5.3	5.5	5.8	6.3
	8H	5.1	5.4	5.6	5.9	6.4	5.0	5.3	5.5	5.8	6.3
Variation with the observer position at spacings:											
S = 1.0H		3.0/-3.3					3.0/-3.2				
S = 1.5H		5.3/-4.3					5.3/-4.2				
S = 2.0H		7.4/-5.2					7.4/-5.3				
Standard tables:		BK1					BK1				
Uncorrected UGR		-12.7					-12.8				
According 1000lm											



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	1.01	1.01	1.01	0.99
1	1.09	1.06	1.03	1.07	1.04	1.02	1.02	1.00	0.98	0.99	0.97	0.95	0.95	0.94	0.92	0.91
2	1.00	0.95	0.91	0.98	0.94	0.90	0.94	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.82
3	0.92	0.86	0.81	0.90	0.85	0.80	0.87	0.83	0.79	0.85	0.81	0.78	0.82	0.79	0.76	0.75
4	0.84	0.78	0.73	0.83	0.77	0.72	0.81	0.76	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.68
5	0.78	0.71	0.66	0.77	0.70	0.66	0.75	0.69	0.65	0.73	0.68	0.64	0.71	0.67	0.64	0.62
6	0.72	0.65	0.60	0.71	0.65	0.60	0.70	0.64	0.60	0.68	0.63	0.59	0.66	0.62	0.59	0.57
7	0.67	0.60	0.55	0.66	0.60	0.55	0.65	0.59	0.55	0.63	0.58	0.54	0.62	0.58	0.54	0.52
8	0.62	0.56	0.51	0.62	0.55	0.51	0.61	0.55	0.51	0.59	0.54	0.50	0.58	0.54	0.50	0.48
9	0.58	0.52	0.47	0.58	0.51	0.47	0.57	0.51	0.47	0.56	0.50	0.47	0.55	0.50	0.46	0.45
10	0.55	0.48	0.44	0.54	0.48	0.44	0.53	0.48	0.44	0.52	0.47	0.43	0.52	0.47	0.43	0.42
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 WLC															
1	0.21	0.12	0.04	0.20	0.11	0.04	0.19	0.11	0.03	0.18	0.10	0.03	0.16	0.10	0.03	
2	0.20	0.11	0.03	0.19	0.11	0.03	0.18	0.10	0.03	0.17	0.10	0.03	0.16	0.09	0.03	
3	0.19	0.10	0.03	0.19	0.10	0.03	0.18	0.10	0.03	0.17	0.09	0.03	0.16	0.09	0.03	
4	0.18	0.09	0.03	0.18	0.09	0.03	0.17	0.09	0.03	0.16	0.09	0.03	0.15	0.08	0.03	
5	0.17	0.09	0.03	0.17	0.09	0.03	0.16	0.08	0.02	0.15	0.08	0.02	0.15	0.08	0.02	
6	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02	0.15	0.08	0.02	0.14	0.07	0.02	
7	0.15	0.08	0.02	0.15	0.08	0.02	0.15	0.07	0.02	0.14	0.07	0.02	0.13	0.07	0.02	
8	0.15	0.07	0.02	0.14	0.07	0.02	0.14	0.07	0.02	0.13	0.07	0.02	0.13	0.07	0.02	
9	0.14	0.07	0.02	0.14	0.07	0.02	0.13	0.07	0.02	0.13	0.06	0.02	0.12	0.06	0.02	
10	0.13	0.06	0.02	0.13	0.06	0.02	0.13	0.06	0.02	0.12	0.06	0.02	0.12	0.06	0.02	
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CCLU															
0	0.20	0.20	0.20	0.17	0.17	0.17	0.11	0.11	0.11	0.07	0.07	0.07	0.02	0.02	0.02	
1	0.16	0.15	0.15	0.14	0.13	0.13	0.10	0.09	0.09	0.06	0.06	0.05	0.02	0.02	0.02	
2	0.14	0.12	0.11	0.12	0.11	0.10	0.09	0.08	0.07	0.05	0.05	0.04	0.02	0.02	0.01	
3	0.12	0.10	0.09	0.10	0.09	0.07	0.08	0.07	0.05	0.05	0.04	0.03	0.02	0.01	0.01	
4	0.10	0.08	0.07	0.09	0.07	0.06	0.07	0.06	0.04	0.05	0.04	0.03	0.02	0.01	0.01	
5	0.09	0.07	0.05	0.08	0.06	0.05	0.07	0.05	0.04	0.04	0.03	0.02	0.02	0.01	0.01	
6	0.08	0.06	0.04	0.07	0.05	0.04	0.06	0.04	0.03	0.04	0.03	0.02	0.02	0.01	0.01	
7	0.07	0.05	0.04	0.07	0.05	0.03	0.06	0.04	0.03	0.04	0.03	0.02	0.02	0.01	0.01	
8	0.06	0.04	0.03	0.06	0.04	0.03	0.05	0.04	0.02	0.04	0.02	0.01	0.01	0.01	0.01	
9	0.06	0.04	0.03	0.06	0.04	0.03	0.05	0.03	0.02	0.04	0.02	0.01	0.01	0.01	0.00	
10	0.05	0.03	0.02	0.05	0.03	0.02	0.05	0.03	0.02	0.03	0.02	0.01	0.01	0.01	0.00	

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	18453.69	18051.73	17005.31	15604.38	14173.13	12989.66	11793.00	10633.24	5378.76
30.0	18468.18	18004.28	16964.46	15502.90	14125.69	12996.25	11778.50	10539.67	4854.24
60.0	18441.82	17934.43	16768.09	15330.25	13997.85	12836.78	11633.53	10227.33	4254.59
90.0	18441.82	18103.13	17080.43	15691.36	14220.58	13045.01	11849.67	10695.19	5762.27
120.0	18452.37	18082.04	17029.03	15678.18	14303.61	13122.76	11937.97	10641.15	5239.06
150.0	18445.78	18170.34	17258.35	15987.89	14567.19	13427.20	12225.27	10966.67	6433.08
180.0	18453.69	18053.04	16978.95	15588.56	14171.82	12938.26	11794.32	10650.38	5422.25
210.0	18468.18	18089.95	17009.26	15596.47	14161.27	12969.89	11862.85	10733.41	5967.86
240.0	18441.82	18151.89	17101.52	15686.09	14153.37	12969.89	11882.62	10765.03	6816.59
270.0	18441.82	17991.10	16828.71	15356.61	13885.83	12769.57	11709.97	10576.57	5384.03
300.0	18452.37	18059.63	16980.27	15576.70	14167.86	13031.83	11860.21	10695.19	5546.14
330.0	18445.78	17954.20	16889.33	15422.51	14003.12	12772.20	11596.63	10274.77	4259.86
360.0	18453.69	18051.73	17005.31	15604.38	14173.13	12989.66	11793.00	10633.24	5378.76

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2026.01	1552.89	1156.20	833.31	568.15	361.11	215.48	107.54	41.12
30.0	2018.11	1546.30	1146.97	820.13	552.33	347.00	204.67	99.90	36.11
60.0	1953.66	1498.06	1122.33	789.16	532.04	332.90	194.00	95.68	29.26
90.0	2047.10	1571.34	1185.19	845.17	576.19	367.04	219.69	113.34	42.70
120.0	2082.29	1574.37	1178.07	842.14	563.01	368.62	216.00	110.57	39.01
150.0	2238.20	1668.86	1251.09	901.84	634.83	391.55	237.88	123.22	49.16
180.0	2081.76	1599.54	1191.12	857.03	585.41	380.48	226.15	118.48	43.10
210.0	2150.95	1647.12	1235.54	898.02	615.07	401.30	239.59	126.78	48.37
240.0	2236.88	1699.17	1284.03	941.38	677.80	417.64	254.62	135.74	54.03
270.0	2067.79	1581.75	1195.73	855.06	583.44	375.73	222.99	113.87	40.59
300.0	2093.23	1600.33	1191.78	859.67	585.28	371.12	220.49	109.78	42.57
330.0	1961.17	1500.83	1123.78	795.09	539.55	346.21	199.66	99.50	33.87
360.0	2026.01	1552.89	1156.20	833.31	568.15	361.11	215.48	107.54	41.12

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	1.71	2.11	2.90	3.95	5.80	9.88	15.81	23.72	33.34
30.0	1.71	2.24	3.03	4.09	6.72	11.47	17.66	24.78	33.08
60.0	1.71	2.24	3.16	4.22	6.98	11.86	18.19	25.44	33.61
90.0	1.71	2.11	3.03	4.09	6.19	10.68	16.87	23.85	31.89
120.0	1.58	2.24	2.90	3.95	6.19	10.94	17.00	24.38	32.16
150.0	1.71	2.11	2.90	3.69	5.54	10.15	15.95	23.06	30.84
180.0	1.71	2.11	2.90	3.95	6.19	10.81	16.87	24.38	32.29
210.0	1.45	1.98	2.77	3.82	5.27	9.23	15.16	23.33	32.68
240.0	2.64	1.98	2.77	3.69	5.27	8.83	14.50	22.01	31.50
270.0	1.58	1.98	2.90	3.95	5.80	9.88	16.34	24.38	33.74
300.0	1.58	2.11	2.90	3.95	5.67	9.75	15.95	23.99	33.74
330.0	1.58	2.24	3.03	4.09	6.19	10.68	17.00	25.17	34.66
360.0	1.71	2.11	2.90	3.95	5.80	9.88	15.81	23.72	33.34

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	42.17	51.79	61.94	72.22	81.71	88.83	97.26	102.53	104.11
30.0	41.12	50.08	59.70	69.45	77.89	85.53	93.83	99.37	103.32
60.0	41.65	50.61	60.23	69.85	77.49	85.80	94.23	99.50	104.11
90.0	39.80	48.50	58.25	67.74	76.17	83.69	93.18	99.37	103.19
120.0	40.06	48.89	58.51	68.00	75.78	83.29	92.78	99.11	103.59
150.0	38.88	48.10	57.46	67.21	76.57	83.56	92.52	98.18	102.27
180.0	40.33	49.42	59.70	70.38	79.07	86.32	93.97	99.50	102.27
210.0	41.51	50.74	60.49	70.64	79.47	87.38	96.47	102.14	104.11
240.0	40.59	49.68	59.83	69.19	78.15	85.66	95.94	102.53	104.91
270.0	42.96	52.06	62.60	72.35	80.92	89.35	98.84	103.98	105.56
300.0	42.57	51.93	61.94	71.43	79.86	87.77	97.66	102.66	104.51
330.0	43.75	53.51	63.13	73.14	81.71	89.35	98.05	102.66	104.77
360.0	42.17	51.79	61.94	72.22	81.71	88.83	97.26	102.53	104.11

Intensity data(cd)

C/γ(°)	180.0
0.0	105.30
30.0	105.96
60.0	106.35
90.0	106.22
120.0	106.09
150.0	105.70
180.0	105.30
210.0	105.96
240.0	106.35
270.0	106.22
300.0	106.09
330.0	105.70
360.0	105.30