



Testing Lab.

Shenzhen LCS Compliance Testing Laboratory Ltd.

地址: 深圳市宝安区宝安大道通达路星源科技园 1 楼

Add: 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China

Tel: 0755-82591330

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Fax: 0755-82591332

webmaster@LCS-cert.com

Report No.: LCS1412090524S

TEST REPORT

NAME OF SAMPLE	200 Watt MightyLite
TRADE MARK	MightyLite
MODEL/TYPE	0022031-5, 0022031, 0022033, 0022035, 0022091, 0022093, 0022095
CLIENT	Global Tech China Limited
ADDRESS OF CLIENT	3 Flat A, Wai Yip Industrial Building, 171 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
INSPECTION CLASSIFICATION	Commission Test
TEST ITEM	IES Test



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Report No.: LCS1412090524S

Test Report

Name or sample	200 Watt MightyLite	Report No.	LCS1412090524S
Client	Global Tech China Limited	ADDRESS OF CLIENT	3 Flat A, Wai Yip Industrial Building, 171 Wai Yip Street, Kwun Tong, Kowloon, Hong Kong
Name of receipt	Delivering	Inspection Classification	Commission test
Test Model	0022031-5	Test date	2014.12.22
Rating of sample	AC100-240V, 50/60Hz, Max 200W, IP65		
Test standard	This test report presents the results of measurements performed on the solid lighting in accordance with LM-63-02 Electrical and Photometric Measurements of Solid-State Lighting Products.		
Test result	Measured data see report attached.		
Testing laboratory	Shenzhen LCS Compliance Testing Laboratory Ltd. 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue, Bao'an District, Shenzhen, Guangdong, China		
Ambient Temperature (°C)	25	Relative Humidity (%)	50
Test report Special-purpose seal	Test by:	Marine Wu	
	Approved by:	Hart Qiu	
	Date of issue	2014-12-23	



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Photos of Sample



Fig.1



Fig.2

Global Tech China Limited

LumCAT: 0022031-5

Luminaire: 200 Watt Mightylite

Report No: LCS1412090524S

Test No: 1412220021

LampCAT: LED

Lamp flux(lm)

Number of Lamps: 1

Length(mm): 311

Phm Type: C

Voltage(V): 219.900

Current(A): 0.806

Power (W): 169.700

PF: 0.957

Ballast type: -

Width(mm): 211

Height(mm): 94

Photometric Results

Lumens(lm): 9222.36

Lumens(lm)/Power(W): 54.35

Central intensity(cd): 4809.427

Maximum intensity(cd): 5453.882

Angle of maximum intensity: C=90.0 γ =25.0

Beam Angle(50%Imax): [C0/180]Left=47.0 Right=49.4

[C90/270]Left=17.2 Right=50.0

Field angle(10%Imax): [C0/180]Left=69.5 Right=70.9

[C90/270]Left=33.4 Right=65.9

Beam angle of C90plane: 68.32

Maximum s/h: C0_180=1.22 C90_270=1.48

Up flux rate of LUM(%): 0.95%

Down flux rate of LUM(%): 99.05%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 89.726%

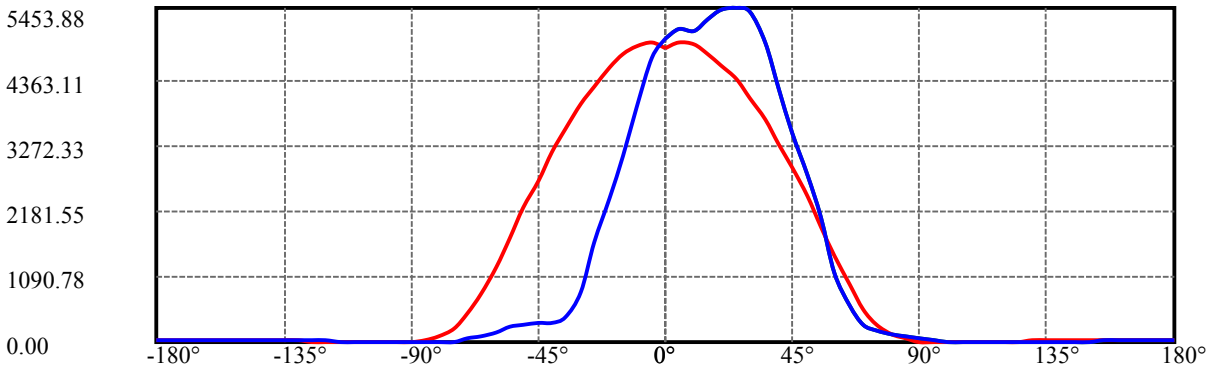
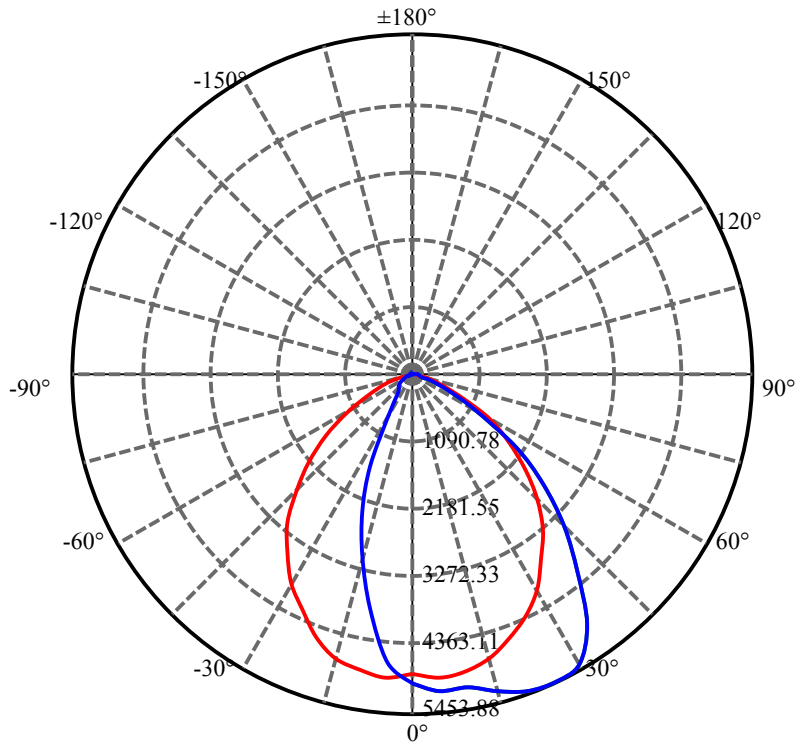
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4948.465	.000	.000	.000%	.000%
5.0	4948.576	118.316	118.316	1.283%	1.283%
10.0	4711.353	345.566	463.882	3.747%	5.030%
15.0	4392.420	540.030	1003.912	5.856%	10.886%
20.0	4103.272	700.164	1704.076	7.592%	18.478%
25.0	3778.694	826.673	2530.749	8.964%	27.441%
30.0	3406.936	909.348	3440.096	9.860%	37.302%
35.0	3018.373	946.172	4386.268	10.260%	47.561%
40.0	2609.032	938.890	5325.158	10.181%	57.742%
45.0	2191.795	888.912	6214.070	9.639%	67.381%
50.0	1802.124	807.030	7021.100	8.751%	76.131%
55.0	1415.078	699.527	7720.627	7.585%	83.716%
60.0	982.574	554.210	8274.838	6.009%	89.726%
65.0	591.915	382.761	8657.600	4.150%	93.876%
70.0	331.859	233.906	8891.505	2.536%	96.413%
75.0	161.740	129.019	9020.523	1.399%	97.811%
80.0	77.822	64.100	9084.624	.695%	98.507%
85.0	41.997	32.558	9117.182	.353%	98.860%
90.0	21.559	17.402	9134.584	.189%	99.048%
95.0	9.818	8.591	9143.175	.093%	99.141%
100.0	3.866	3.718	9146.894	.040%	99.182%
105.0	4.558	2.254	9149.147	.024%	99.206%
110.0	6.293	2.836	9151.983	.031%	99.237%
115.0	8.336	3.704	9155.688	.040%	99.277%
120.0	10.554	4.592	9160.279	.050%	99.327%
125.0	12.948	5.433	9165.712	.059%	99.386%
130.0	15.343	6.151	9171.863	.067%	99.452%
135.0	17.726	6.682	9178.545	.072%	99.525%
140.0	19.944	6.975	9185.520	.076%	99.601%
145.0	22.031	7.003	9192.522	.076%	99.677%
150.0	23.997	6.778	9199.301	.073%	99.750%
155.0	25.853	6.309	9205.609	.068%	99.818%
160.0	27.555	5.602	9211.211	.061%	99.879%
165.0	29.005	4.661	9215.872	.051%	99.930%
170.0	30.301	3.518	9219.390	.038%	99.968%
175.0	31.399	2.207	9221.597	.024%	99.992%
180.0	32.113	.759	9222.355	.008%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	3440.10	37.30%
0-40	5325.16	57.74%
0-60	8274.84	89.73%
0-90	9134.58	99.05%
0-120	9160.28	99.33%
0-180	9222.36	100.00%
60-90	1413.96	15.33%
90-120	43.10	0.47%
90-130	54.68	0.59%
90-150	82.12	0.89%
90-180	104.42	1.13%
0-52.55	7377.88	80.00%

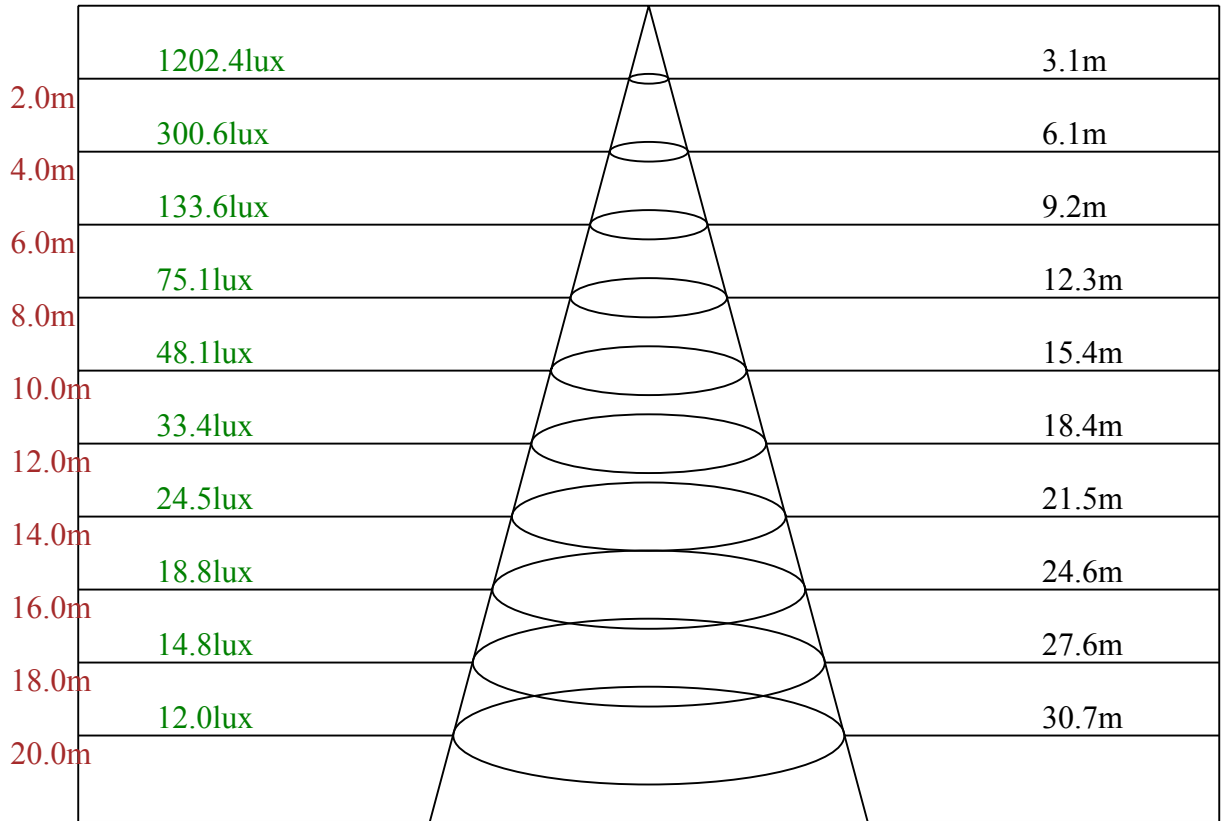
ZONAL LUMEN SUMMARY

0-10	463.88
10-20	1240.19
20-30	1736.02
30-40	1885.06
40-50	1695.94
50-60	1253.74
60-70	616.67
70-80	193.12
80-90	49.96
90-100	12.31
100-110	5.09
110-120	8.30
120-130	11.58
130-140	13.66
140-150	13.78
150-160	11.91
160-170	8.18
170-180	2.21

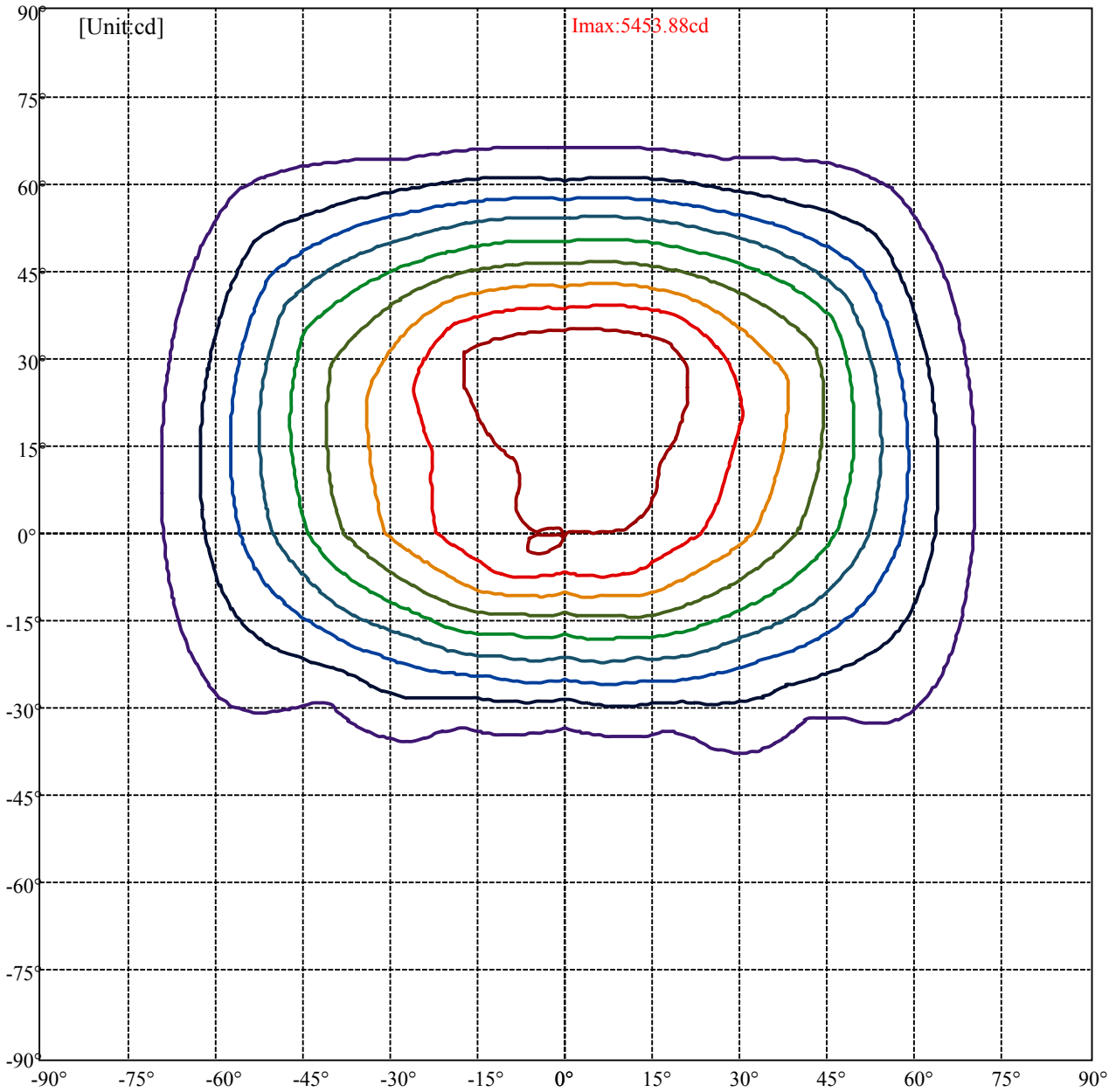


C90(Max): ——
C0/C180: ——
C90/C270: ——

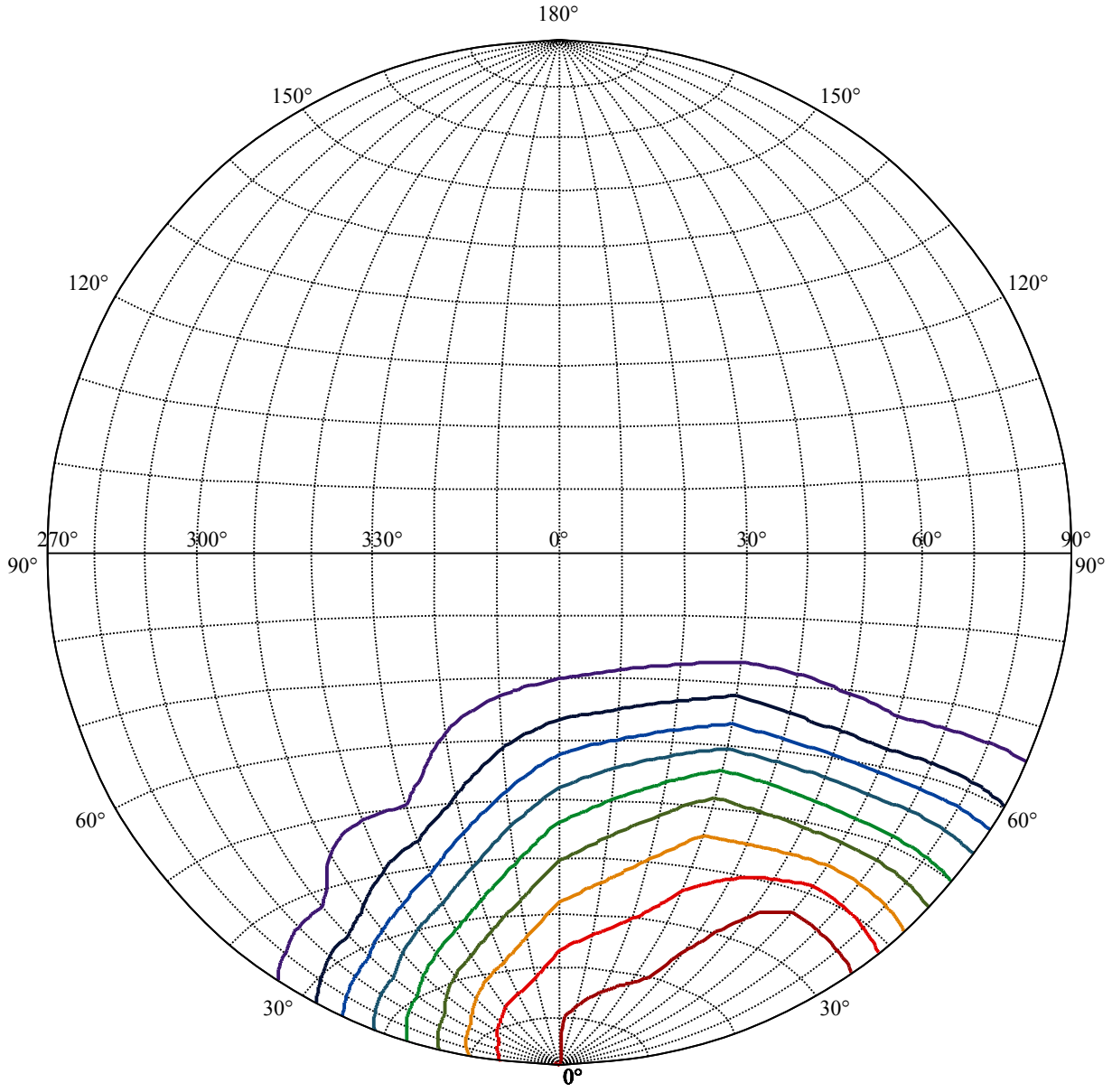
Field angle(10%Imax):C0/180Left:69.5 Right:70.9
:C90/270Left:33.4 Right:65.9
Beam Angle(50%Imax):C0/180Left:47.0 Right:49.4
:C90/270Left:17.2 Right:50.0



Beam angle of C90plane68.32



- (10%Imax) 545.388
- (20%Imax) 1090.78
- (30%Imax) 1636.16
- (40%Imax) 2181.55
- (50%Imax) 2726.94
- (60%Imax) 3272.33
- (70%Imax) 3817.72
- (80%Imax) 4363.11
- (90%Imax) 4908.49



House

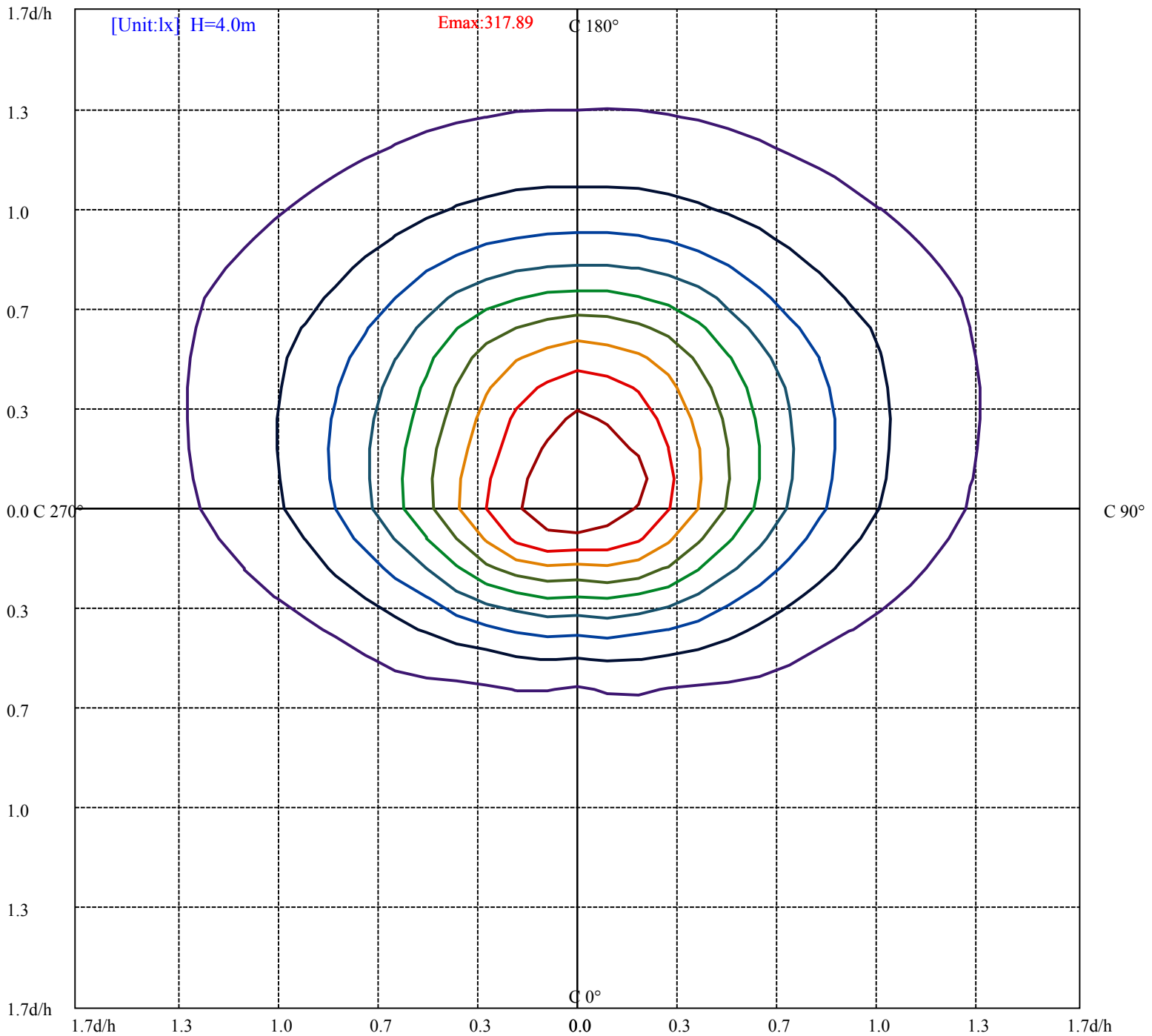
Road

[Unit:cd]

Imax:5453.88

- (10%Imax) 545.388
- (20%Imax) 1090.78
- (30%Imax) 1636.16
- (40%Imax) 2181.55
- (50%Imax) 2726.94
- (60%Imax) 3272.33
- (70%Imax) 3817.72
- (80%Imax) 4363.11
- (90%Imax) 4908.49



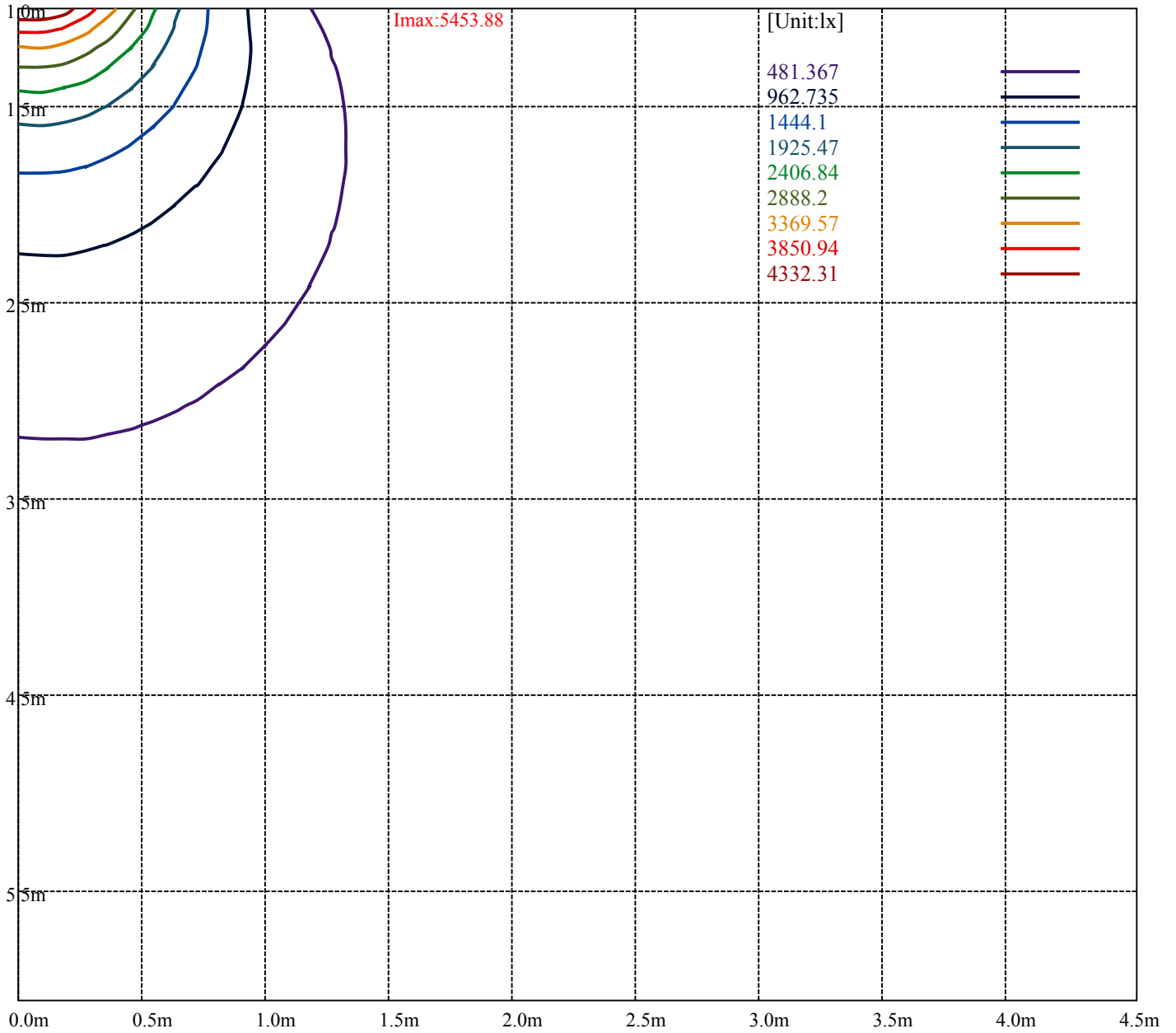


(10%Emax) 31.78863	—
(20%Emax) 63.5775	—
(30%Emax) 95.36625	—
(40%Emax) 127.1544	—
(50%Emax) 158.9431	—
(60%Emax) 190.7319	—
(70%Emax) 222.5206	—
(80%Emax) 254.3094	—
(90%Emax) 286.0981	—

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

Date: 2014-12-22
Humidity(%): 50.0%

Operator: Marine
Distance(m): 11.48



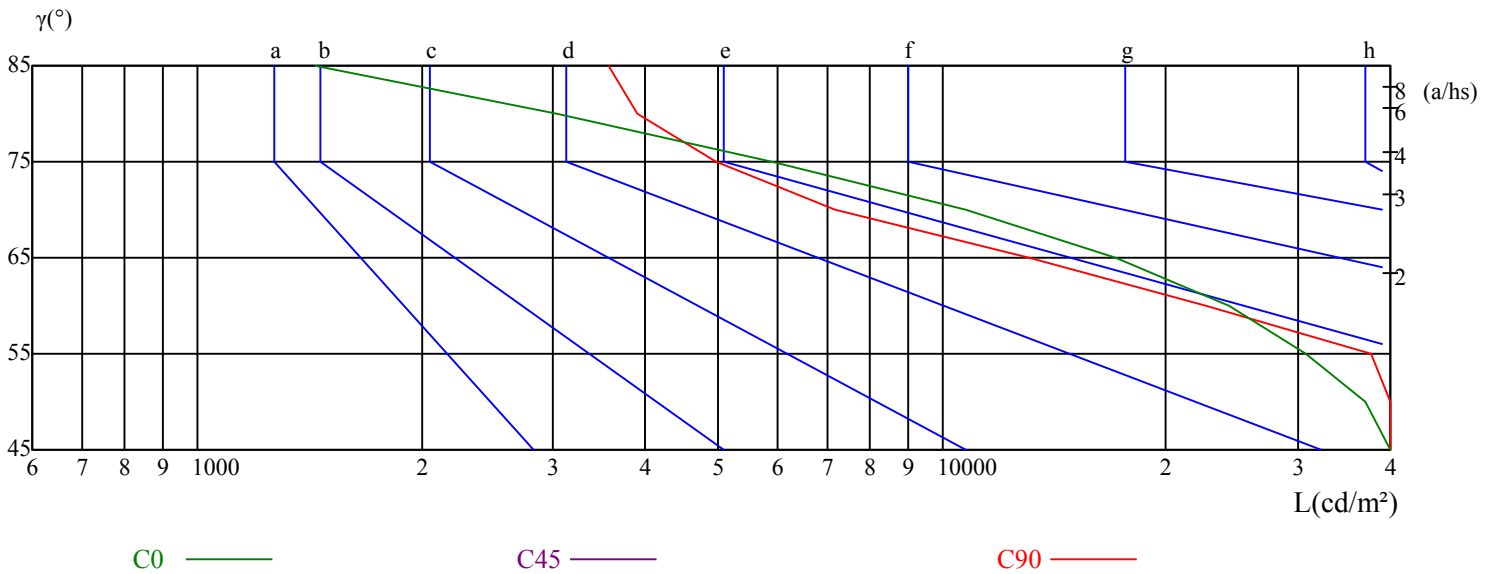
Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	42448	37007	30715	24266	17141	10743	5916	3030	1437
C45	0	0	0	0	0	0	0	0	0
C90	56670	47464	37745	22576	13119	7189	4974	3899	3559

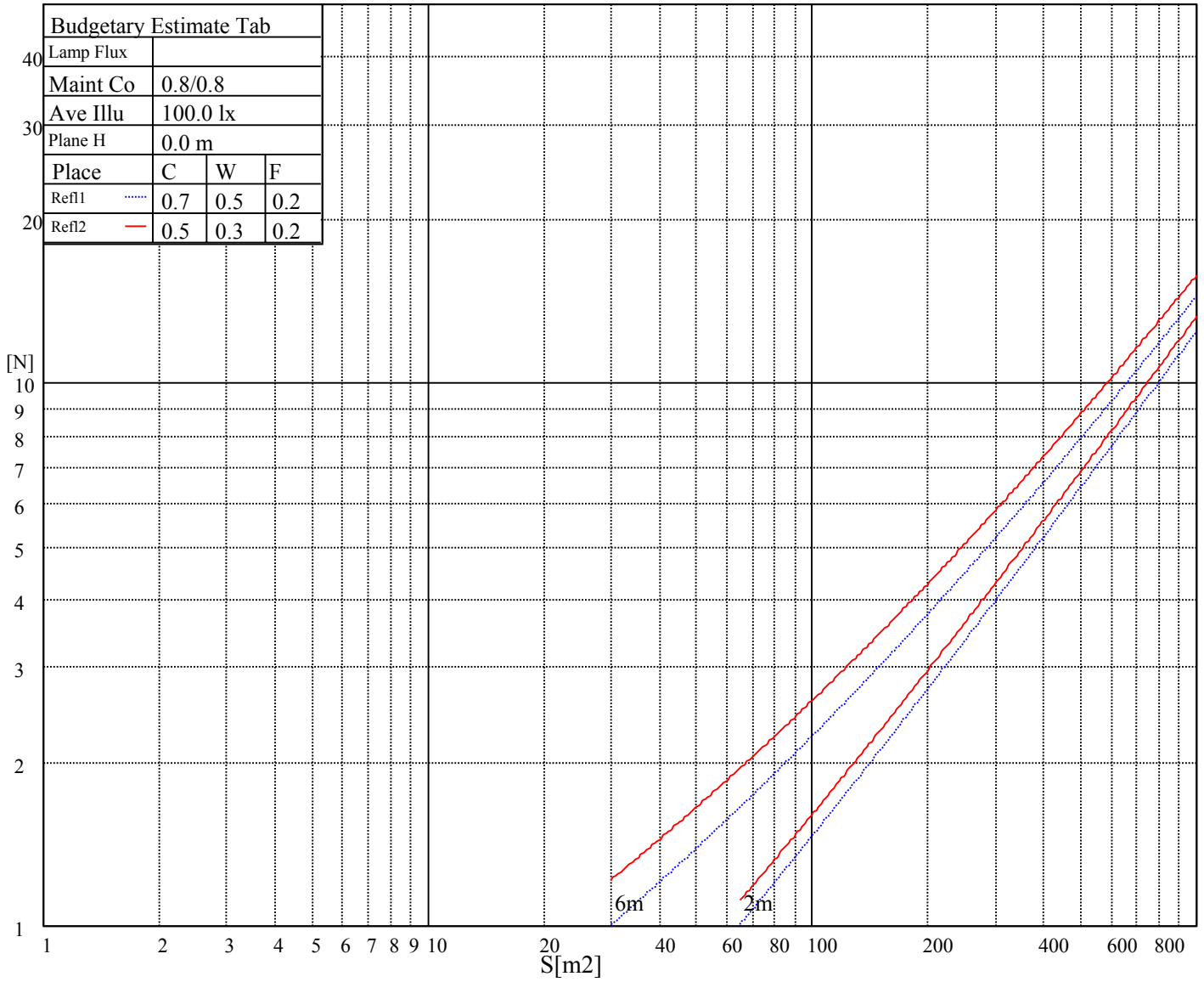
Glare Table

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	18.4	19.6	18.7	19.9	20.1	17.9	19.1	18.2	19.3	19.6
	3H	18.9	20.0	19.2	20.2	20.5	17.9	19.0	18.3	19.3	19.6
	4H	18.8	19.7	19.2	20.0	20.4	17.8	18.7	18.2	19.0	19.4
	6H	18.9	19.8	19.3	20.1	20.4	17.9	18.7	18.2	19.1	19.4
	8H	18.9	19.8	19.3	20.1	20.4	17.9	18.8	18.3	19.1	19.4
	12H	18.7	19.4	19.1	19.8	20.2	17.7	18.4	18.1	18.8	19.2
4H	2H	18.6	19.5	19.0	19.8	20.2	18.1	19.0	18.5	19.3	19.7
	3H	19.2	19.9	19.7	20.3	20.7	18.2	18.9	18.7	19.3	19.7
	4H	19.4	20.1	19.8	20.5	20.9	18.3	19.0	18.7	19.4	19.8
	6H	19.5	20.1	19.9	20.5	20.9	18.4	19.0	18.8	19.4	19.8
	8H	19.3	19.7	19.8	20.2	20.7	18.2	18.6	18.7	19.1	19.6
	12H	19.3	19.7	19.8	20.2	20.7	18.3	18.6	18.8	19.1	19.6
8H	4H	19.3	19.6	19.8	20.1	20.7	18.3	18.6	18.8	19.1	19.6
	6H	19.4	19.7	19.9	20.2	20.8	18.3	18.7	18.8	19.2	19.7
	8H	19.4	19.8	19.9	20.3	20.8	18.4	18.7	18.9	19.2	19.7
	12H	19.4	19.8	19.9	20.3	20.8	18.4	18.8	18.9	19.3	19.8
12H	4H	19.3	19.7	19.8	20.1	20.7	18.3	18.6	18.8	19.1	19.6
	6H	19.4	19.8	19.9	20.2	20.8	18.3	18.7	18.9	19.2	19.7
	8H	19.4	19.8	19.9	20.3	20.8	18.4	18.8	18.9	19.2	19.8
Variation with the observer position at spacings:											
S = 1.0H		0.7/-0.7					0.6/-0.9				
S = 1.5H		1.4/-2.3					1.2/-3.4				
S = 2.0H		2.6/-3.6					3.5/-5.5				
Standard tables:		BK2					BK1				
Uncorrected UGR		1.8					0.4				
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	1.07	1.03	1.00	1.04	1.01	0.99	1.00	0.98	0.95	0.96	0.94	0.92	0.93	0.91	0.89	0.87
2	0.95	0.90	0.85	0.94	0.88	0.84	0.90	0.86	0.82	0.87	0.83	0.80	0.84	0.81	0.78	0.76
3	0.86	0.79	0.73	0.84	0.77	0.72	0.81	0.75	0.71	0.78	0.74	0.70	0.76	0.72	0.68	0.66
4	0.77	0.69	0.63	0.76	0.69	0.63	0.73	0.67	0.62	0.71	0.65	0.61	0.69	0.64	0.60	0.58
5	0.70	0.62	0.56	0.69	0.61	0.56	0.66	0.60	0.55	0.64	0.59	0.54	0.63	0.58	0.54	0.52
6	0.63	0.55	0.50	0.62	0.55	0.49	0.61	0.54	0.49	0.59	0.53	0.48	0.57	0.52	0.48	0.46
7	0.58	0.50	0.44	0.57	0.50	0.44	0.56	0.49	0.44	0.54	0.48	0.44	0.53	0.47	0.43	0.41
8	0.53	0.46	0.40	0.53	0.45	0.40	0.51	0.45	0.40	0.50	0.44	0.40	0.49	0.43	0.39	0.37
9	0.49	0.42	0.37	0.49	0.41	0.36	0.47	0.41	0.36	0.46	0.40	0.36	0.45	0.40	0.36	0.34
10	0.46	0.38	0.33	0.45	0.38	0.33	0.44	0.38	0.33	0.43	0.37	0.33	0.42	0.37	0.33	0.31
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 WLC															
1	0.25	0.14	0.04	0.24	0.14	0.04	0.23	0.13	0.04	0.22	0.12	0.04	0.20	0.12	0.04	
2	0.24	0.13	0.04	0.24	0.13	0.04	0.22	0.12	0.04	0.21	0.12	0.04	0.20	0.11	0.04	
3	0.23	0.12	0.04	0.22	0.12	0.04	0.21	0.12	0.04	0.20	0.11	0.03	0.19	0.11	0.03	
4	0.22	0.11	0.03	0.21	0.11	0.03	0.20	0.11	0.03	0.19	0.10	0.03	0.19	0.10	0.03	
5	0.20	0.10	0.03	0.20	0.10	0.03	0.19	0.10	0.03	0.18	0.10	0.03	0.18	0.09	0.03	
6	0.19	0.10	0.03	0.19	0.09	0.03	0.18	0.09	0.03	0.17	0.09	0.03	0.17	0.09	0.03	
7	0.18	0.09	0.03	0.18	0.09	0.02	0.17	0.09	0.02	0.16	0.08	0.02	0.16	0.08	0.02	
8	0.17	0.08	0.02	0.17	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02	0.15	0.08	0.02	
9	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.07	0.02	0.15	0.07	0.02	0.14	0.07	0.02	
10	0.15	0.07	0.02	0.15	0.07	0.02	0.14	0.07	0.02	0.14	0.07	0.02	0.14	0.07	0.02	
RCR	COEFFICIENTS OF UTILIZATION RHOFC=20 CCLU															
0	0.20	0.20	0.20	0.17	0.17	0.17	0.12	0.12	0.12	0.07	0.07	0.07	0.02	0.02	0.02	
1	0.16	0.15	0.14	0.14	0.13	0.12	0.10	0.09	0.09	0.06	0.06	0.05	0.02	0.02	0.02	
2	0.13	0.12	0.10	0.12	0.10	0.09	0.09	0.08	0.07	0.06	0.05	0.04	0.02	0.02	0.01	
3	0.11	0.09	0.08	0.10	0.08	0.07	0.08	0.06	0.05	0.05	0.04	0.03	0.02	0.01	0.01	
4	0.09	0.08	0.06	0.09	0.07	0.05	0.07	0.06	0.04	0.05	0.04	0.03	0.02	0.01	0.01	
5	0.08	0.06	0.05	0.08	0.06	0.04	0.07	0.05	0.03	0.05	0.03	0.02	0.02	0.01	0.01	
6	0.07	0.05	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	0.06	0.05	0.03	0.07	0.05	0.03	0.06	0.04	0.02	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	0.06	0.04	0.02	0.04	0.03	0.01	0.02	0.01	0.00	
9	0.05	0.04	0.02	0.06	0.04	0.02	0.05	0.03	0.02	0.04	0.02	0.01	0.02	0.01	0.00	
10	0.05	0.03	0.02	0.05	0.03	0.02	0.05	0.03	0.02	0.04	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	4809.43	4889.82	4863.46	4717.17	4522.12	4280.95	3979.15	3624.63	3243.76
30.0	5120.45	5293.10	5244.34	5055.88	4842.38	4731.67	4543.21	4391.65	4159.70
60.0	5051.92	5220.61	5115.18	5088.82	5240.38	5307.59	5293.10	5098.05	4564.30
90.0	4953.08	5117.82	5084.87	5260.15	5410.39	5453.88	5381.40	4887.18	4143.89
120.0	4905.63	5030.83	4962.30	4946.49	5038.74	5075.64	5080.92	4934.63	4362.66
150.0	4850.28	4997.89	4903.00	4700.04	4599.88	4418.01	4226.91	4056.90	3826.27
180.0	4809.43	4895.09	4829.20	4706.63	4483.90	4170.24	3880.30	3488.89	3102.74
210.0	5120.45	5033.47	4738.26	4195.28	3620.68	3044.75	2378.95	1868.00	1354.02
240.0	5051.92	4763.30	4154.43	3366.32	2678.38	2012.84	1284.03	690.98	342.52
270.0	4953.08	4624.92	3831.54	3043.44	2339.94	1636.97	806.03	419.36	324.47
300.0	4905.63	4701.36	4172.88	3395.32	2765.36	2080.05	1447.45	734.47	370.99
330.0	4850.28	4814.70	4636.78	4233.50	3697.12	3131.74	2581.77	2025.75	1513.09
360.0	4809.43	4889.82	4863.46	4717.17	4522.12	4280.95	3979.15	3624.63	3243.76

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	2847.07	2389.76	1891.59	1410.55	929.52	536.26	267.53	121.77	50.08
30.0	3843.40	3458.58	2889.24	2119.59	1427.69	850.44	377.05	170.14	86.19
60.0	3769.60	3019.71	2305.28	1485.28	701.52	341.34	180.42	113.47	79.07
90.0	3424.31	2723.19	2033.92	1128.52	599.65	295.34	179.76	120.59	90.67
120.0	3631.22	2906.37	2219.22	1476.71	694.54	339.23	170.54	105.43	71.30
150.0	3471.75	3126.46	2645.43	2006.25	1338.07	797.73	385.09	164.21	79.21
180.0	2630.67	2182.32	1692.58	1224.33	787.45	456.52	225.89	102.66	33.61
210.0	778.49	406.44	258.18	193.34	145.10	93.70	46.52	14.23	4.48
240.0	288.62	280.58	253.96	180.16	111.23	57.46	21.35	1.98	1.45
270.0	303.51	289.02	238.94	168.30	103.85	56.27	14.23	0.92	0.92
300.0	276.76	267.40	247.90	191.10	116.50	60.76	23.59	2.37	1.45
330.0	1036.14	575.66	304.70	206.78	147.87	97.26	48.89	16.08	5.54
360.0	2847.07	2389.76	1891.59	1410.55	929.52	536.26	267.53	121.77	50.08

C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	13.57	2.50	3.56	5.14	7.12	9.23	11.60	13.97	16.34
30.0	38.61	12.52	1.32	1.85	2.77	3.95	5.40	7.51	9.49
60.0	49.68	21.75	2.77	1.05	1.32	1.71	2.37	3.43	4.88
90.0	62.34	30.31	2.24	0.92	1.19	1.45	1.85	2.50	3.69
120.0	41.65	17.40	2.24	1.05	1.19	1.71	2.50	3.56	5.27
150.0	30.31	9.09	5.01	2.50	3.16	4.48	6.06	8.17	10.28
180.0	11.20	8.83	4.61	5.80	7.78	10.02	12.39	14.89	17.40
210.0	3.95	4.22	6.33	8.96	11.86	15.02	18.19	21.09	24.12
240.0	1.71	2.64	4.48	6.98	10.15	13.71	17.53	21.09	24.12
270.0	1.45	2.24	3.82	6.06	8.96	12.52	16.47	20.56	24.25
300.0	1.71	2.64	4.35	6.59	9.62	12.92	16.34	19.77	22.80
330.0	2.50	3.69	5.67	7.78	10.41	13.31	15.95	18.85	21.48
360.0	13.57	2.50	3.56	5.14	7.12	9.23	11.60	13.97	16.34

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	18.71	20.95	23.06	24.78	26.23	27.81	29.13	30.31	31.23
30.0	11.86	14.10	16.34	18.32	20.16	22.27	24.51	27.15	30.05
60.0	6.98	9.36	12.26	15.02	17.79	20.30	22.80	25.70	29.13
90.0	5.27	7.38	10.15	13.05	16.21	19.24	21.48	24.51	27.81
120.0	7.25	9.88	12.39	15.16	18.06	20.56	23.06	25.57	28.73
150.0	12.52	14.76	17.00	18.98	20.95	22.93	25.04	27.28	29.39
180.0	19.64	21.61	23.59	24.91	26.36	27.81	29.26	30.58	31.10
210.0	26.62	28.73	30.31	31.63	32.82	33.74	34.40	34.53	33.87
240.0	27.15	29.13	30.71	32.42	33.61	34.66	35.32	35.19	34.40
270.0	27.28	29.78	31.37	32.95	34.40	35.72	36.24	35.85	34.79
300.0	25.44	27.41	29.26	31.23	32.68	33.74	34.40	34.13	33.61
330.0	23.99	26.23	27.94	29.52	30.97	31.89	32.42	32.82	32.68
360.0	18.71	20.95	23.06	24.78	26.23	27.81	29.13	30.31	31.23

Intensity data(cd)

C/γ(°)	180.0
0.0	31.89
30.0	32.82
60.0	32.42
90.0	32.03
120.0	31.76
150.0	31.76
180.0	31.89
210.0	32.82
240.0	32.42
270.0	32.03
300.0	31.76
330.0	31.76
360.0	31.89