
Client: P.Q.L., Inc.

LumCAT:

Luminaire: STR-25-X-35K-15-HH

Report No:

Ballast type:

Test No:

Voltage(V): 229.600

LampCAT:

Current(A): 0.116

Lamp flux(lm)

Power (W): 24.710

Number of Lamps:

PF: 0.927

1 Length(mm): -75

Width(mm): -75

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2146.91, Luminous Efficacy(lm/W): 86.88

Central intensity(cd): 20430.490, Maximum intensity(cd): 20430.490

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=16.7

[C90/270]Total=17.1

Field angle(10%Imax): [C0/180]Total=28.9

[C90/270]Total=29.3

Maximum s/h(1/2): C0_180=0.30 C90_270=0.31

Maximum s/h(1/4): C0_180=0.29 C90_270=0.29

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.053%

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	20379.004	0.000	0	0.00%	0.00%
2.0	19859.439	77.007	77.007	3.59%	3.59%
4.0	18177.881	218.296	295.303	10.17%	13.75%
6.0	15072.202	317.778	613.081	14.80%	28.56%
8.0	11244.519	351.691	964.773	16.38%	44.94%
10.0	7295.136	318.031	1282.804	14.81%	59.75%
12.0	4260.840	241.791	1524.595	11.26%	71.01%
14.0	2348.754	163.041	1687.636	7.59%	78.61%
16.0	1299.095	103.531	1791.167	4.82%	83.43%
18.0	680.066	63.453	1854.62	2.96%	86.39%
20.0	386.349	38.072	1892.692	1.77%	88.16%
22.0	255.288	25.215	1917.906	1.17%	89.33%
24.0	193.268	19.219	1937.125	0.90%	90.23%
26.0	145.290	15.690	1952.815	0.73%	90.96%
28.0	126.567	13.534	1966.349	0.63%	91.59%
30.0	101.994	12.151	1978.5	0.57%	92.16%
32.0	90.292	10.860	1989.36	0.51%	92.66%
34.0	86.781	10.575	1999.935	0.49%	93.15%
36.0	71.569	9.960	2009.895	0.46%	93.62%
38.0	68.058	9.214	2019.109	0.43%	94.05%
40.0	63.377	9.070	2028.179	0.42%	94.47%
42.0	61.037	8.951	2037.13	0.42%	94.89%
44.0	62.207	9.217	2046.347	0.43%	95.32%
46.0	52.846	8.921	2055.268	0.42%	95.73%
48.0	50.505	8.289	2063.556	0.39%	96.12%
50.0	46.995	8.069	2071.625	0.38%	96.49%
52.0	43.484	7.711	2079.336	0.36%	96.85%
54.0	38.803	7.206	2086.542	0.34%	97.19%
56.0	37.633	6.866	2093.408	0.32%	97.51%
58.0	30.612	6.276	2099.685	0.29%	97.80%
60.0	27.102	5.425	2105.109	0.25%	98.05%
62.0	22.421	4.750	2109.859	0.22%	98.27%
64.0	21.251	4.267	2114.126	0.20%	98.47%
66.0	20.080	4.108	2118.233	0.19%	98.66%
68.0	18.910	3.936	2122.169	0.18%	98.85%
70.0	11.971	3.161	2125.33	0.15%	98.99%
72.0	13.141	2.604	2127.934	0.12%	99.12%
74.0	12.135	2.651	2130.585	0.12%	99.24%

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

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

Operator: 01
Distance(m): 11.85

Zonal flux distribution table

Appendix Page: 3 Total:17

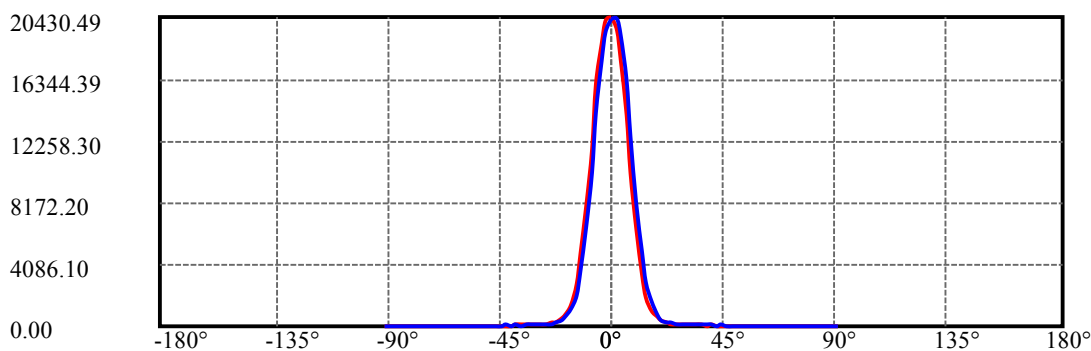
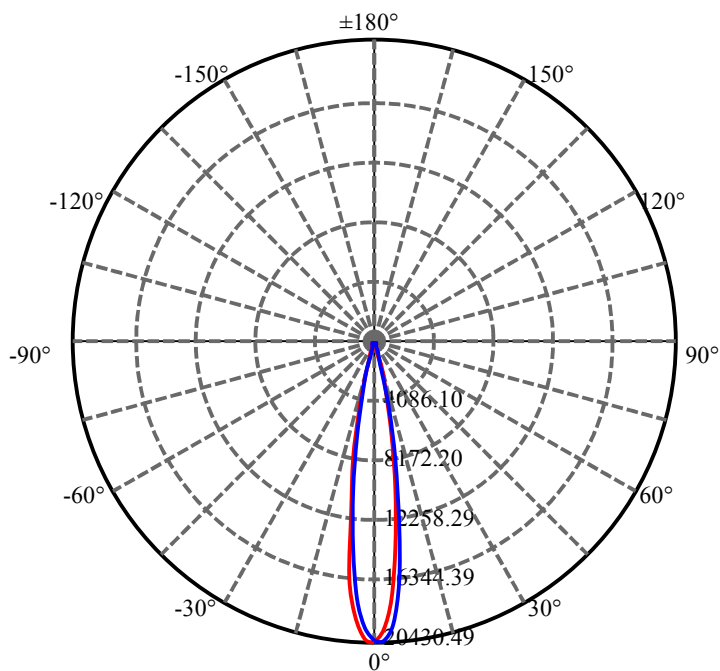
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	12.135	2.571	2133.155	0.12%	99.36%
78.0	10.883	2.459	2135.615	0.11%	99.47%
80.0	8.788	2.117	2137.732	0.10%	99.57%
82.0	2.177	1.188	2138.92	0.06%	99.63%
84.0	8.706	1.184	2140.104	0.06%	99.68%
86.0	9.794	2.021	2142.125	0.09%	99.78%
88.0	13.141	2.512	2144.637	0.12%	99.89%
90.0	7.618	2.276	2146.913	0.11%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	1978.50	92.16%
0-40	2028.18	94.47%
0-60	2105.11	98.05%
0-90	2144.64	99.89%
0-120	2144.64	99.89%
0-180	2146.91	100.00%
60-90	39.53	1.84%
90-120	0.00	0.00%
90-130	0.00	0.00%
90-150	0.00	0.00%
90-180	0.00	0.00%
0-14.58	1717.53	80.00%

ZONAL LUMEN SUMMARY

0-10	1282.80
10-20	609.89
20-30	85.81
30-40	49.68
40-50	43.45
50-60	33.48
60-70	20.22
70-80	12.40
80-90	6.90
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: —

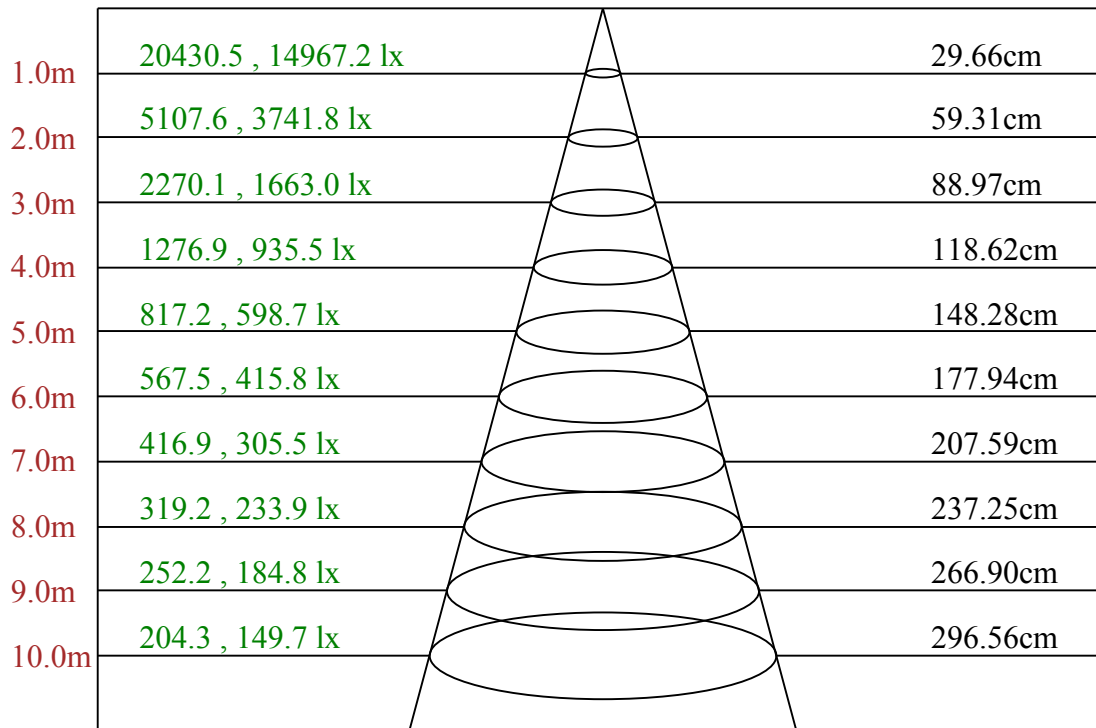
C90/C270: —

Field angle(10%Imax):C0/180Left:15.1 Right:13.8

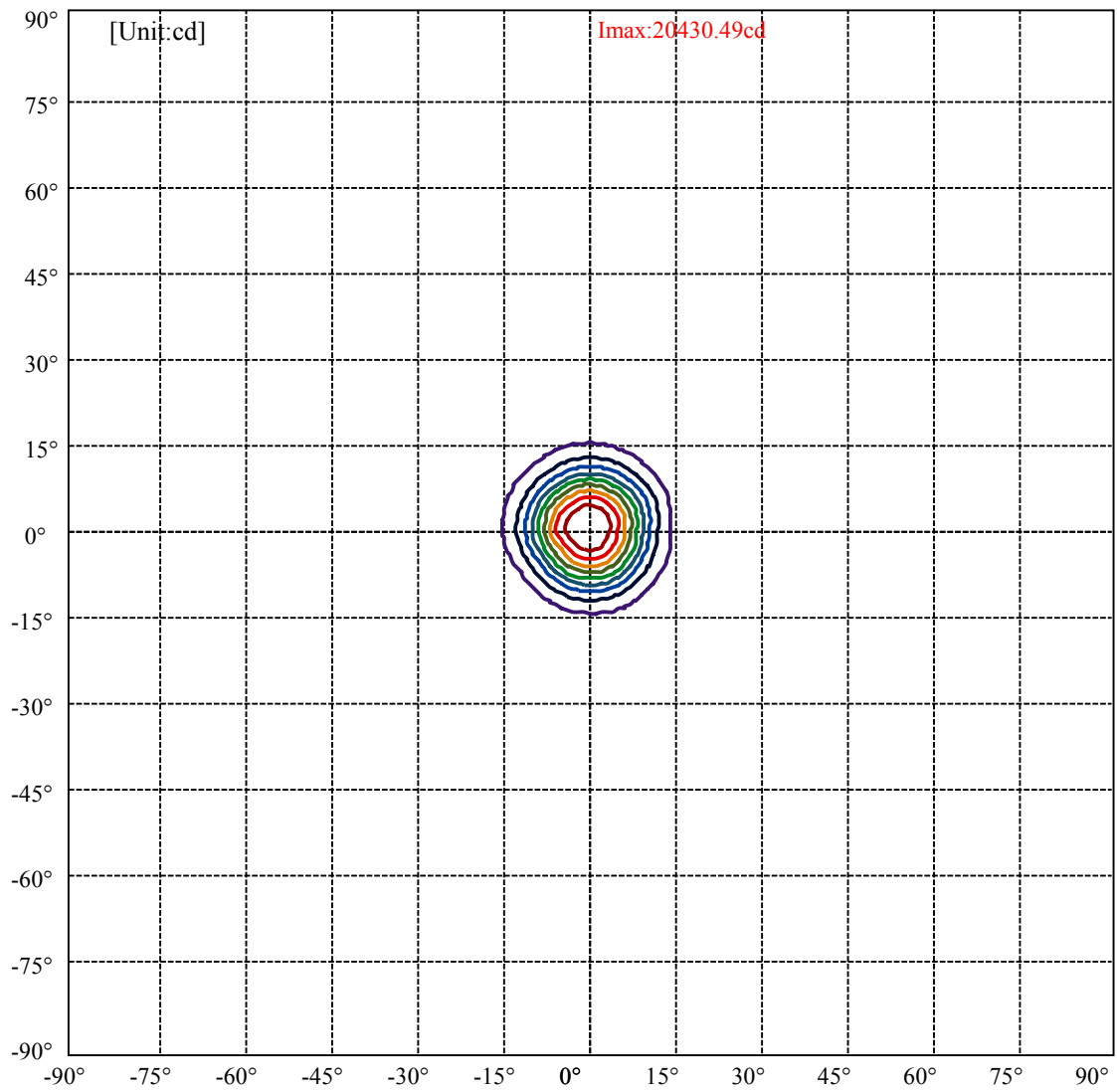
:C90/270Left:16.0 Right:13.3

Beam Angle(50%Imax):C0/180Left:8.8 Right:7.9

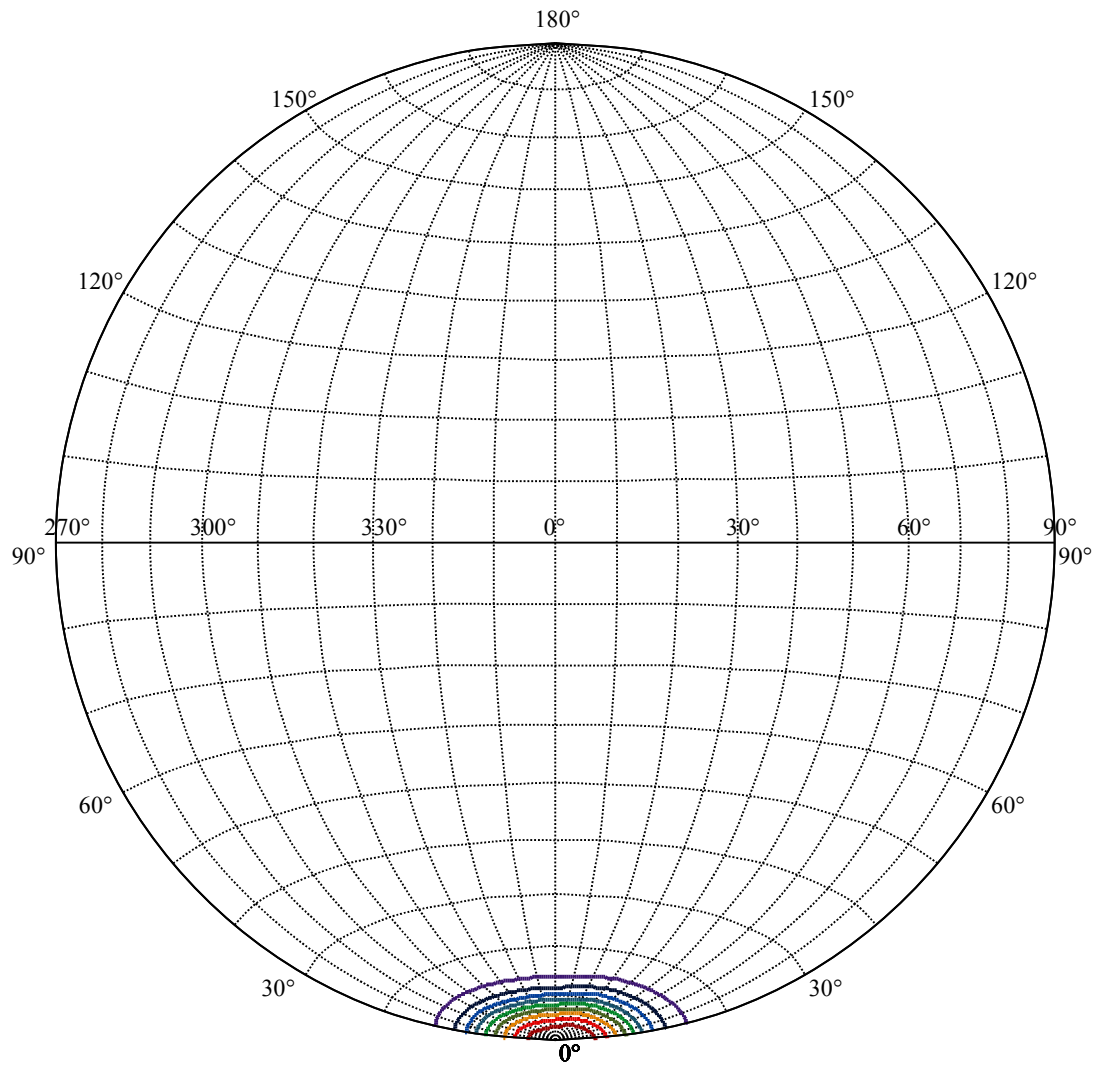
:C90/270Left:10.0 Right:7.1



Max , Ave Beam angle of C0 plane 16.87



(10%Imax) 2033.22	—
(20%Imax) 4066.44	—
(30%Imax) 6099.66	—
(40%Imax) 8132.88	—
(50%Imax) 10166.1	—
(60%Imax) 12199.3	—
(70%Imax) 14232.5	—
(80%Imax) 16265.8	—
(90%Imax) 18299	—



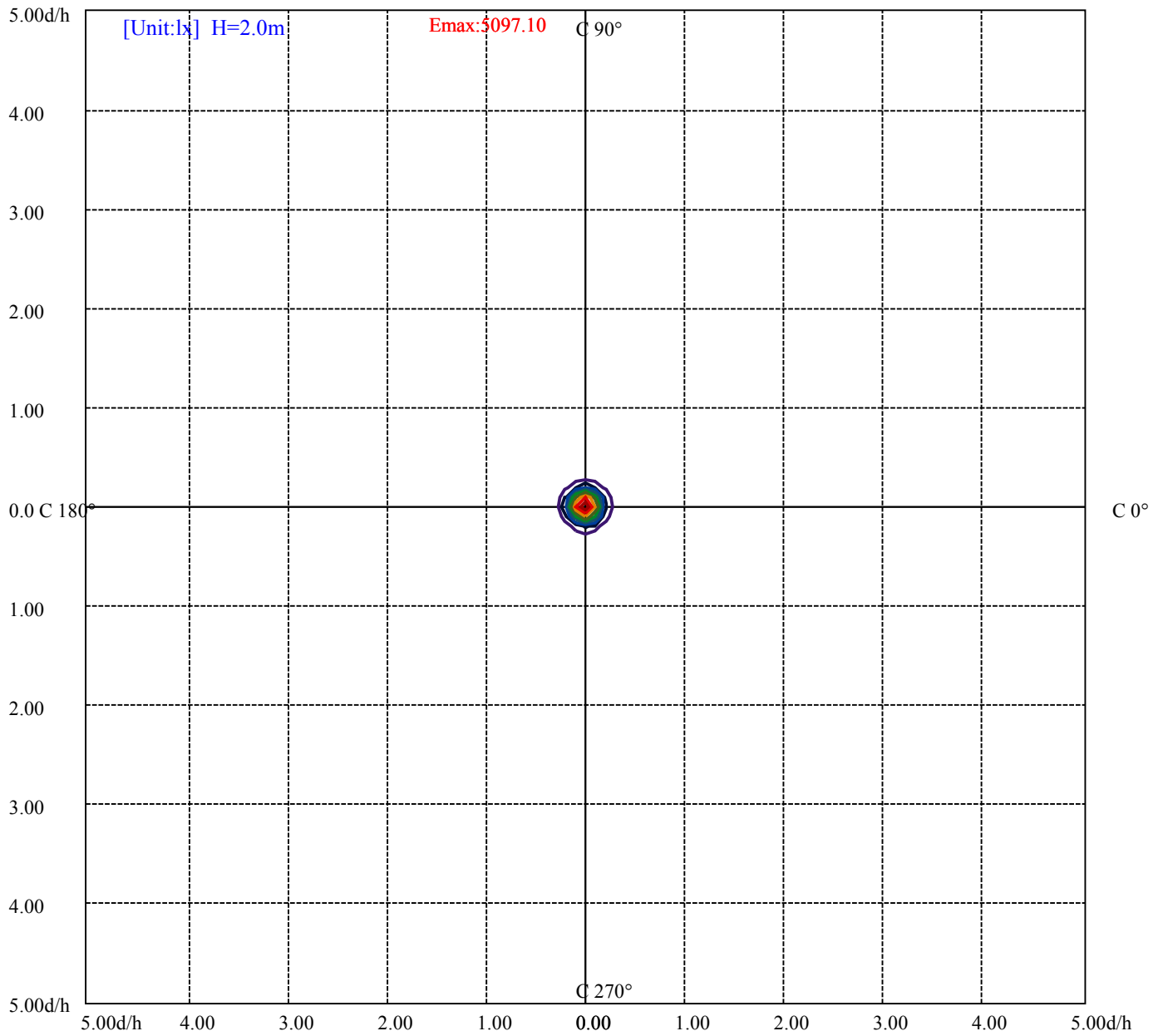
House

[Unit:cd]

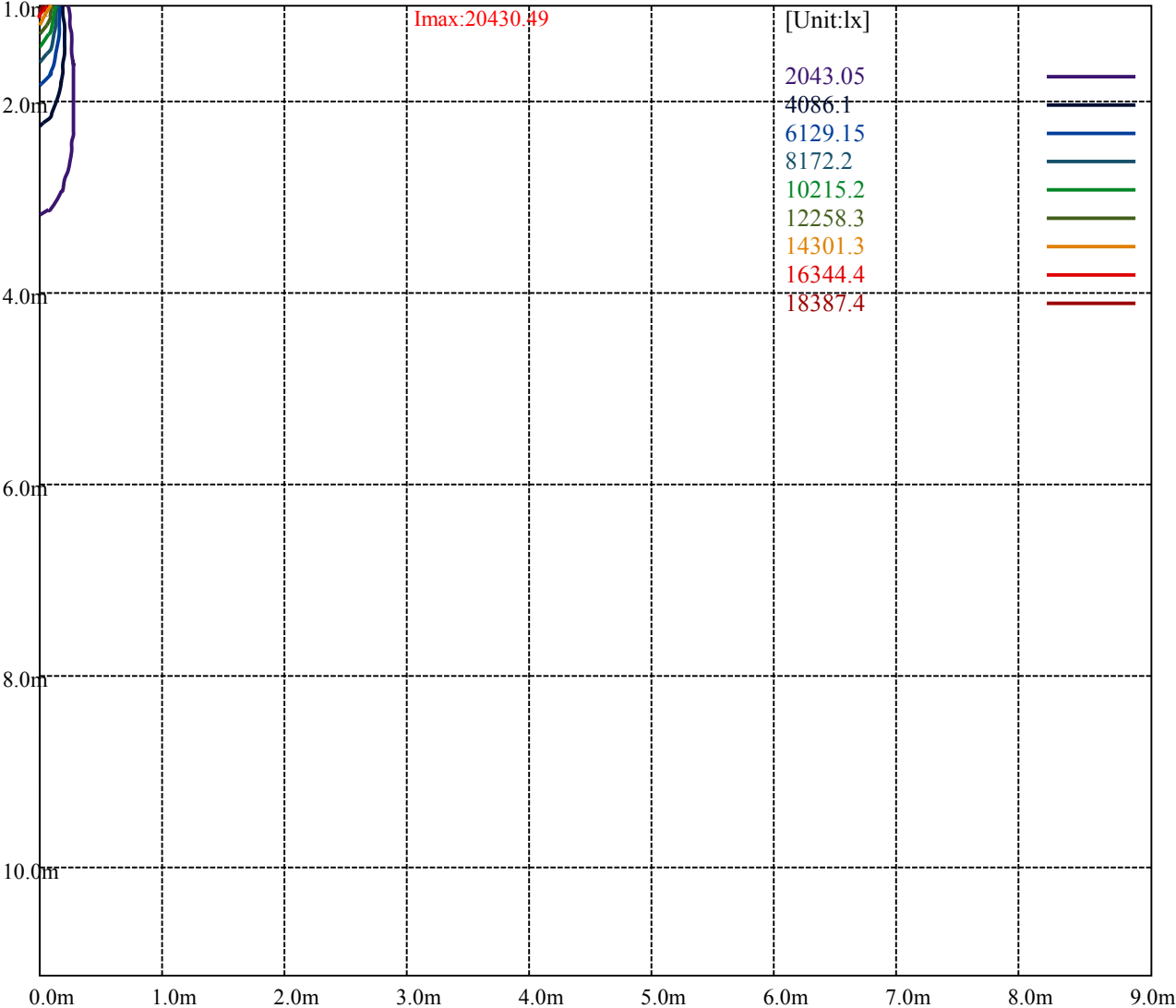
Road

Imax:20430.49

(10%Imax) 2043.05	—
(20%Imax) 4086.1	—
(30%Imax) 6129.15	—
(40%Imax) 8172.2	—
(50%Imax) 10215.2	—
(60%Imax) 12258.3	—
(70%Imax) 14301.3	—
(80%Imax) 16344.4	—
(90%Imax) 18387.4	—



(10%Emax) 509.7075	—
(20%Emax) 1019.417	—
(30%Emax) 1529.125	—
(40%Emax) 2038.835	—
(50%Emax) 2548.55	—
(60%Emax) 3058.25	—
(70%Emax) 3567.95	—
(80%Emax) 4077.675	—
(90%Emax) 4587.375	—



Luminance Limiting Curve(luminous side)

Luminance Table

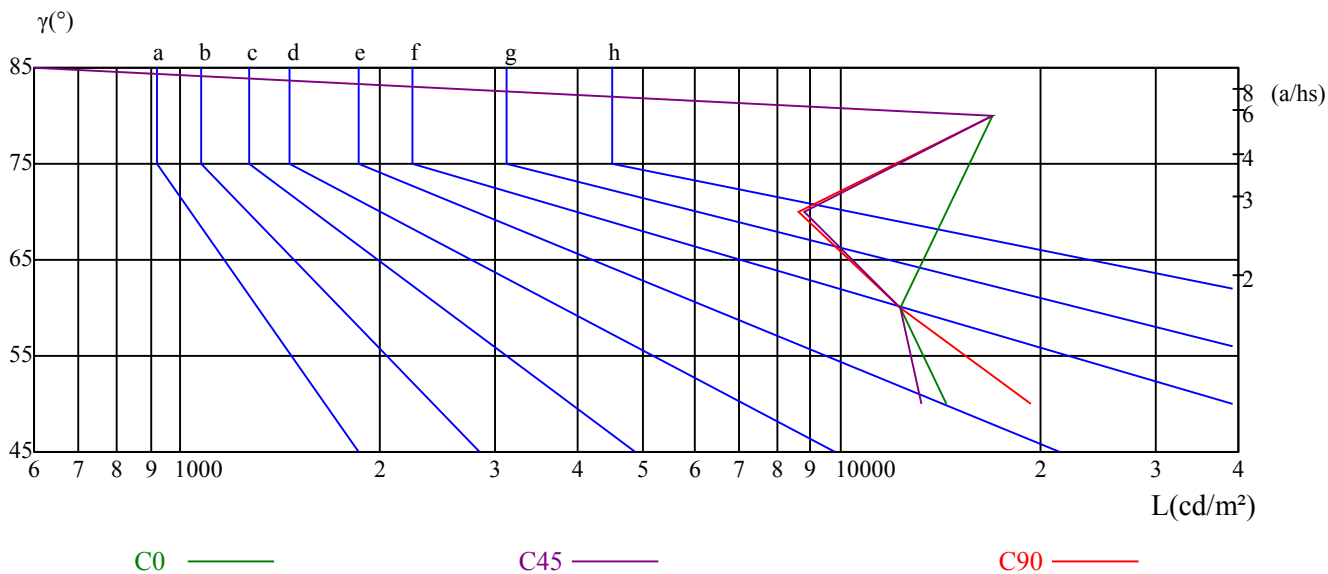
γ	45	50	55	60	65	70	75	80	85
C0	0	14489	0	12269	0	0	0	17023	0
C45	0	13252	0	12269	0	8829	0	17023	182
C90	0	19433	0	12269	0	8643	0	17023	0

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

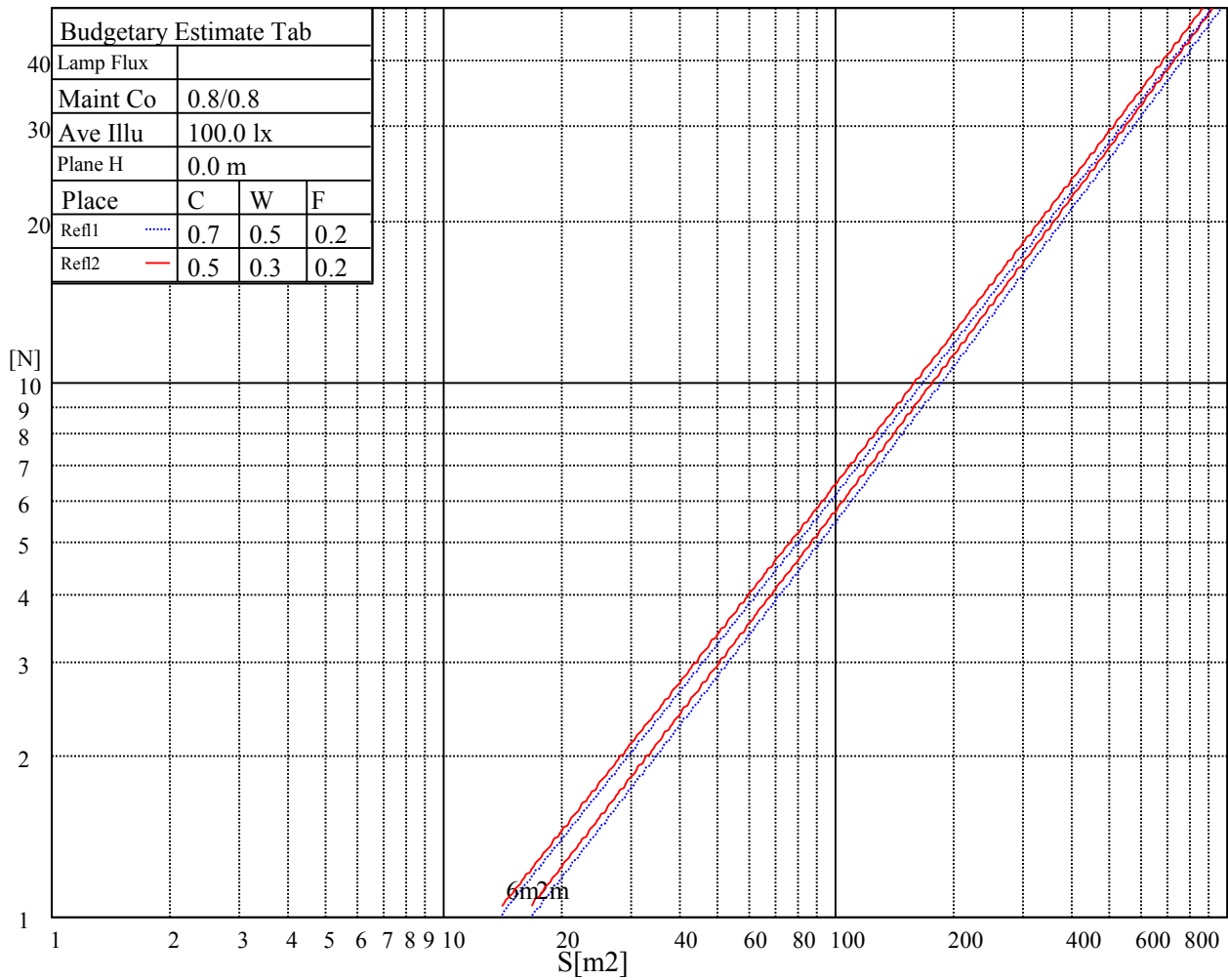
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

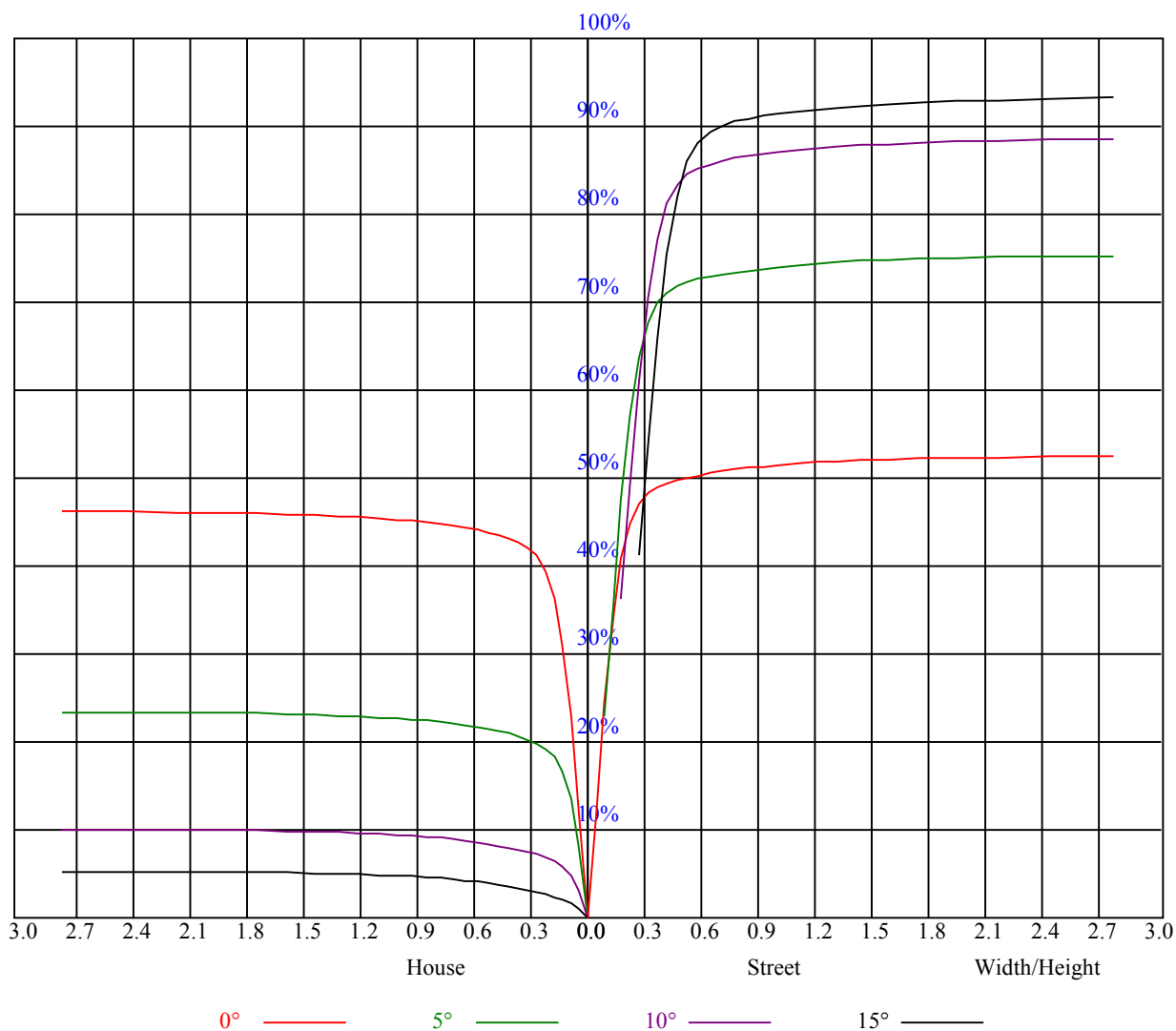


Illumination assessment according UGR											
Rf of Ceiling	70	70	50	50	30	70	70	50	50	30	
Rf of Wall	50	30	50	30	30	50	30	50	30	30	
Rf of Floor	20	20	20	20	20	20	20	20	20	20	
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	14.21	15.17	14.57	15.48	15.80	15.10	16.06	15.46	16.38	16.69
	3H	15.10	15.96	15.49	16.29	16.64	16.01	16.86	16.39	17.20	17.55
	4H	15.49	16.29	15.89	16.64	17.01	16.35	17.15	16.75	17.50	17.87
	6H	16.55	17.28	16.97	17.65	18.05	17.23	17.96	17.65	18.33	18.73
	8H	16.59	17.28	17.01	17.67	18.07	17.73	18.42	18.15	18.81	19.21
	12H	16.53	17.19	16.96	17.58	18.00	18.47	19.12	18.90	19.52	19.94
4H	2H	14.88	15.67	15.28	16.03	16.40	15.61	16.41	16.01	16.76	17.13
	3H	15.82	16.48	16.24	16.88	17.29	16.51	17.18	16.94	17.58	17.99
	4H	16.41	16.98	16.85	17.41	17.86	16.99	17.56	17.43	17.99	18.44
	6H	17.95	18.46	18.42	18.91	19.36	18.10	18.61	18.57	19.06	19.51
	8H	18.02	18.49	18.50	18.94	19.42	18.63	19.10	19.12	19.56	20.04
	12H	18.03	18.46	18.52	18.91	19.44	19.50	19.93	19.99	20.38	20.90
8H	4H	16.75	17.22	17.24	17.68	18.16	17.25	17.72	17.73	18.18	18.65
	6H	18.95	19.34	19.46	19.82	20.33	18.59	18.97	19.09	19.45	19.96
	8H	19.08	19.40	19.61	19.92	20.42	19.11	19.43	19.64	19.95	20.45
	12H	19.33	19.57	19.87	20.09	20.61	20.10	20.35	20.64	20.86	21.39
12H	4H	16.86	17.29	17.35	17.75	18.27	17.47	17.91	17.96	18.36	18.88
	6H	19.05	19.37	19.59	19.90	20.39	18.79	19.11	19.32	19.63	20.13
	8H	19.22	19.47	19.76	19.99	20.51	19.25	19.49	19.79	20.01	20.53
Variation with the observer position at spacings:											
S = 1.0H	0.5/-1.6					0.7/-0.8					
S = 1.5H	0.6/-1.3					1.0/-2.2					
S = 2.0H	0.8/-1.3					1.8/-1.7					
Standard tables:	BKBF					BKBF					
Uncorrected UGR	3.7					2.5					

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	1.13	1.11	1.10	1.11	1.09	1.08	1.07	1.06	1.05	1.03	1.02	1.02	1.00	0.99	0.99	0.97
2	1.08	1.06	1.03	1.07	1.04	1.02	1.04	1.02	1.00	1.01	0.99	0.98	0.98	0.97	0.96	0.94
3	1.04	1.01	0.98	1.03	1.00	0.98	1.01	0.98	0.96	0.98	0.96	0.95	0.96	0.95	0.93	0.92
4	1.01	0.98	0.95	1.00	0.97	0.94	0.98	0.95	0.93	0.96	0.94	0.92	0.95	0.93	0.91	0.90
5	0.98	0.95	0.92	0.97	0.94	0.92	0.96	0.93	0.91	0.94	0.92	0.90	0.93	0.91	0.89	0.88
6	0.96	0.92	0.90	0.95	0.92	0.89	0.94	0.91	0.89	0.93	0.90	0.88	0.92	0.89	0.88	0.87
7	0.94	0.90	0.88	0.93	0.90	0.87	0.92	0.89	0.87	0.91	0.89	0.87	0.90	0.88	0.86	0.85
8	0.92	0.88	0.86	0.91	0.88	0.86	0.91	0.88	0.85	0.90	0.87	0.85	0.89	0.87	0.85	0.84
9	0.90	0.87	0.84	0.90	0.87	0.84	0.89	0.86	0.84	0.88	0.86	0.84	0.88	0.85	0.84	0.83
10	0.89	0.85	0.83	0.88	0.85	0.83	0.88	0.85	0.83	0.87	0.85	0.83	0.87	0.84	0.82	0.82



Intensity data(cd)

Appendix Page: 16 Total:17

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	20430.49	19517.74	17537.79	14013.18	10109.44	6430.37	3467.45	1922.81	1066.23
30.0	20402.41	20079.43	18352.24	15515.70	11808.55	7890.76	4815.51	2456.41	1403.24
60.0	20374.32	20205.81	18871.80	15894.84	12089.39	8115.44	4899.76	2624.92	1473.45
90.0	20304.11	20332.20	19208.82	16302.07	12552.79	8157.56	4913.80	2863.64	1627.92
120.0	20416.45	20261.98	19026.27	16133.56	12342.15	7960.97	4787.42	2765.34	1543.66
150.0	20346.24	20247.94	19054.35	16245.90	12524.70	8452.45	4857.64	2821.51	1613.88
180.0	20430.49	20205.81	18605.00	16049.31	11682.17	8031.18	4857.64	2737.26	1445.37
210.0	20402.41	19545.83	17523.75	14041.27	10474.54	6332.07	3720.21	1838.55	1024.10
240.0	20374.32	19461.58	17650.13	14223.82	10418.37	6444.41	3734.26	1922.81	1052.19
270.0	20304.11	19433.49	17495.66	14069.35	10193.69	6612.92	3650.00	2035.14	1136.44
300.0	20416.45	19531.79	17650.13	14265.94	10502.62	6865.68	3790.42	2161.52	1122.40
330.0	20346.24	19489.66	17158.65	14111.48	10235.82	6247.82	3635.96	2035.14	1080.27
360.0	20430.49	19517.74	17537.79	14013.18	10109.44	6430.37	3467.45	1922.81	1066.23
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	616.88	364.12	265.82	167.52	125.40	111.36	97.31	83.27	83.27
30.0	687.09	406.24	265.82	195.61	167.52	139.44	97.31	97.31	83.27
60.0	743.26	406.24	265.82	209.65	167.52	139.44	111.36	97.31	97.31
90.0	785.38	392.20	251.78	209.65	139.44	125.40	111.36	97.31	83.27
120.0	715.17	378.16	251.78	181.57	139.44	125.40	97.31	83.27	83.27
150.0	855.59	420.28	279.86	209.65	153.48	139.44	111.36	83.27	83.27
180.0	785.38	448.37	279.86	209.65	139.44	111.36	97.31	83.27	83.27
210.0	560.71	364.12	251.78	195.61	153.48	125.40	111.36	97.31	83.27
240.0	588.79	350.07	223.69	195.61	139.44	125.40	97.31	97.31	97.31
270.0	602.83	364.12	237.74	181.57	139.44	125.40	97.31	97.31	83.27
300.0	616.88	378.16	251.78	181.57	153.48	125.40	97.31	83.27	83.27
330.0	602.83	364.12	237.74	181.57	125.40	125.40	97.31	83.27	97.31
360.0	616.88	364.12	265.82	167.52	125.40	111.36	97.31	83.27	83.27
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	69.23	55.19	69.23	55.19	55.19	55.19	41.14	41.14	41.14
30.0	83.27	83.27	55.19	55.19	55.19	41.14	55.19	41.14	41.14
60.0	69.23	69.23	83.27	55.19	69.23	55.19	55.19	41.14	55.19
90.0	69.23	69.23	69.23	55.19	69.23	55.19	55.19	55.19	55.19
120.0	83.27	69.23	69.23	69.23	69.23	69.23	55.19	41.14	55.19
150.0	69.23	69.23	55.19	55.19	55.19	41.14	55.19	55.19	41.14
180.0	69.23	69.23	41.14	55.19	55.19	27.10	41.14	41.14	41.14
210.0	83.27	69.23	69.23	55.19	55.19	69.23	55.19	55.19	41.14
240.0	69.23	69.23	55.19	69.23	69.23	55.19	41.14	55.19	27.10
270.0	55.19	69.23	55.19	69.23	55.19	55.19	55.19	41.14	41.14
300.0	69.23	55.19	69.23	69.23	69.23	55.19	55.19	41.14	41.14
330.0	69.23	69.23	69.23	69.23	69.23	55.19	41.14	55.19	41.14
360.0	69.23	55.19	69.23	55.19	55.19	55.19	41.14	41.14	41.14
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	41.14	41.14	27.10	27.10	27.10	13.06	27.10	13.06	0.00
30.0	27.10	41.14	27.10	27.10	13.06	27.10	27.10	13.06	13.06
60.0	55.19	41.14	41.14	27.10	27.10	27.10	41.14	13.06	13.06
90.0	27.10	27.10	41.14	27.10	27.10	27.10	13.06	13.06	13.06
120.0	41.14	41.14	27.10	13.06	13.06	13.06	13.06	27.10	13.06
150.0	41.14	27.10	27.10	27.10	27.10	27.10	13.06	27.10	13.06
180.0	41.14	27.10	13.06	27.10	27.10	13.06	27.10	27.10	13.06
210.0	41.14	41.14	41.14	27.10	13.06	13.06	27.10	13.06	13.06
240.0	27.10	41.14	27.10	27.10	27.10	27.10	13.06	13.06	13.06
270.0	41.14	41.14	27.10	27.10	27.10	27.10	13.06	13.06	13.06
300.0	41.14	41.14	41.14	41.14	13.06	13.06	13.06	27.10	13.06
330.0	41.14	41.14	27.10	27.10	27.10	27.10	13.06	27.10	13.06
360.0	41.14	41.14	27.10	27.10	27.10	13.06	27.10	13.06	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	13.06	13.06	0.00	13.06	13.06	0.00	0.00	0.00	27.10
30.0	13.06	13.06	13.06	13.06	27.10	0.00	13.06	13.06	13.06
60.0	13.06	0.00	13.06	13.06	13.06	0.00	0.00	13.06	13.06
90.0	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06	13.06
120.0	13.06	13.06	13.06	13.06	0.00	0.00	13.06	13.06	13.06
150.0	13.06	0.00	13.06	13.06	0.00	0.00	13.06	13.06	13.06
180.0	13.06	13.06	27.10	13.06	13.06	0.00	0.00	13.06	13.06
210.0	13.06	0.00	13.06	13.06	0.00	0.00	13.06	13.06	13.06
240.0	0.00	13.06	0.00	13.06	13.06	0.00	0.00	0.00	0.00
270.0	27.10	13.06	0.00	13.06	0.00	0.00	13.06	13.06	13.06
300.0	13.06	27.10	13.06	0.00	0.00	13.06	13.06	13.06	13.06
330.0	13.06	27.10	27.10	0.00	13.06	0.00	13.06	0.00	13.06
360.0	13.06	13.06	0.00	13.06	13.06	0.00	0.00	0.00	27.10

C/γ(°)	90.0
0.0	0.00
30.0	13.06
60.0	13.06
90.0	0.00
120.0	13.06
150.0	0.00
180.0	13.06
210.0	0.00
240.0	13.06
270.0	13.06
300.0	13.06
330.0	0.00
360.0	0.00