
Light Blue USA-Rayhil

Client:

LumCAT: LCD-RDD-2x12-5CCT-36-UNV-**

Luminaire: LED lamp

Report No:

Ballast type:

Test No:

Voltage(V): 119.980

LampCAT:

Current(A): 0.215

Lamp flux(lm): 2061.3

Power (W): 25.640

Number of Lamps: 1

PF: 0.994

Length(mm): 185

Width(mm): 55

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 2061.31, Efficiency(%): 100.00% , Luminous Efficacy(lm/W): 80.39

Central intensity(cd): 3002.857, Maximum intensity(cd): 3002.857

Angle of maximum intensity: C=90.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=42.2

[C90/270]Total=43.0

Field angle(10%Imax): [C0/180]Total=77.6

[C90/270]Total=77.6

Maximum s/h(1/2): C0_180=0.67 C90_270=0.69

Maximum s/h(1/4): C0_180=0.69 C90_270=0.70

Up flux rate of lamp(%): 0.31%

Down flux rate of lamp(%): 99.69%

Up flux rate of LUM(%): 0.31%

Down flux rate of LUM(%): 99.69%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 93.736%

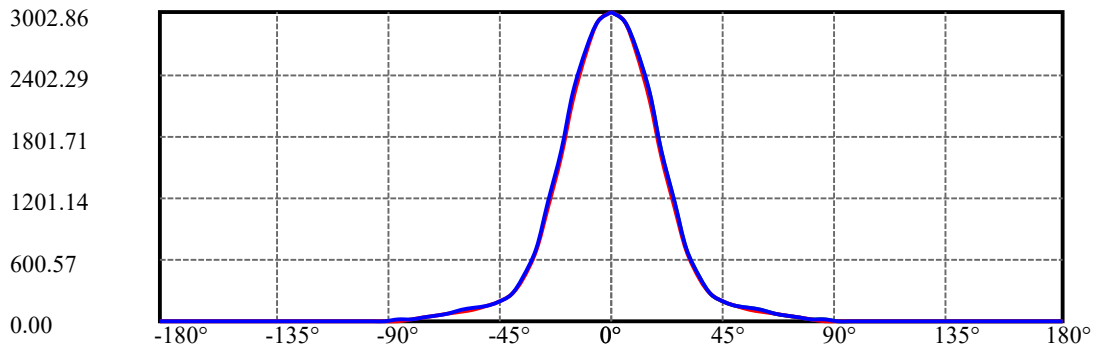
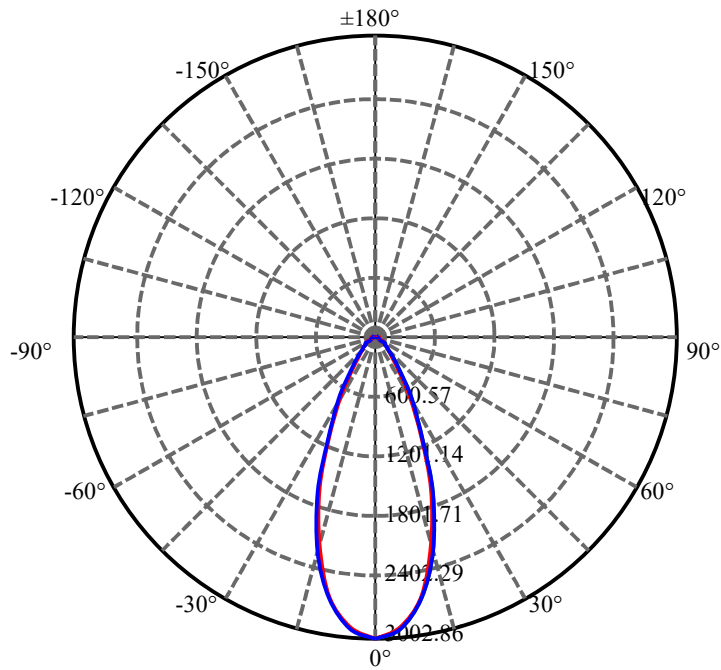
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3002.857	0.000	0	0.00%	0.00%
5.0	2911.225	70.701	70.701	3.43%	3.43%
10.0	2635.628	198.428	269.13	9.63%	13.06%
15.0	2178.653	285.580	554.709	13.85%	26.91%
20.0	1643.844	315.027	869.737	15.28%	42.19%
25.0	1123.287	290.221	1159.958	14.08%	56.27%
30.0	693.895	229.966	1389.924	11.16%	67.43%
35.0	423.039	164.476	1554.4	7.98%	75.41%
40.0	265.780	114.924	1669.324	5.58%	80.98%
45.0	193.121	84.969	1754.294	4.12%	85.11%
50.0	149.432	69.218	1823.512	3.36%	88.46%
55.0	120.108	58.607	1882.119	2.84%	91.31%
60.0	96.538	50.077	1932.196	2.43%	93.74%
65.0	71.720	40.904	1973.1	1.98%	95.72%
70.0	50.560	30.962	2004.062	1.50%	97.22%
75.0	35.509	22.497	2026.559	1.09%	98.31%
80.0	23.250	15.722	2042.281	0.76%	99.08%
85.0	10.598	9.197	2051.478	0.45%	99.52%
90.0	2.189	3.501	2054.98	0.17%	99.69%
95.0	0.000	0.599	2055.579	0.03%	99.72%
100.0	0.000	0.000	2055.579	0.00%	99.72%
105.0	0.000	0.000	2055.579	0.00%	99.72%
110.0	0.000	0.000	2055.579	0.00%	99.72%
115.0	0.000	0.000	2055.579	0.00%	99.72%
120.0	0.000	0.000	2055.579	0.00%	99.72%
125.0	0.000	0.000	2055.579	0.00%	99.72%
130.0	0.000	0.000	2055.579	0.00%	99.72%
135.0	0.000	0.000	2055.579	0.00%	99.72%
140.0	0.689	0.128	2055.707	0.01%	99.73%
145.0	1.304	0.333	2056.039	0.02%	99.74%
150.0	2.300	0.531	2056.57	0.03%	99.77%
155.0	4.217	0.825	2057.394	0.04%	99.81%
160.0	6.173	1.090	2058.484	0.05%	99.86%
165.0	7.437	1.122	2059.606	0.05%	99.92%
170.0	8.281	0.932	2060.538	0.05%	99.96%
175.0	8.741	0.609	2061.147	0.03%	99.99%
180.0	4.563	0.159	2061.306	0.01%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1389.92	67.43%	67.43%
0-40	1669.32	80.98%	80.98%
0-60	1932.20	93.74%	93.74%
0-90	2054.98	99.69%	99.69%
0-120	2055.58	99.72%	99.72%
0-180	2061.31	100.00%	100.00%
60-90	122.78	5.96%	5.96%
90-120	0.60	0.03%	0.03%
90-130	0.60	0.03%	0.03%
90-150	1.59	0.08%	0.08%
90-180	6.17	0.30%	0.30%
0-39.12	1649.05	80.00%	80.00%

ZONAL LUMEN SUMMARY

0-10	269.13
10-20	600.61
20-30	520.19
30-40	279.40
40-50	154.19
50-60	108.68
60-70	71.87
70-80	38.22
80-90	12.70
90-100	0.60
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.13
140-150	0.86
150-160	1.91
160-170	2.05
170-180	0.61



C90(Max): —————

C0/C180: —————

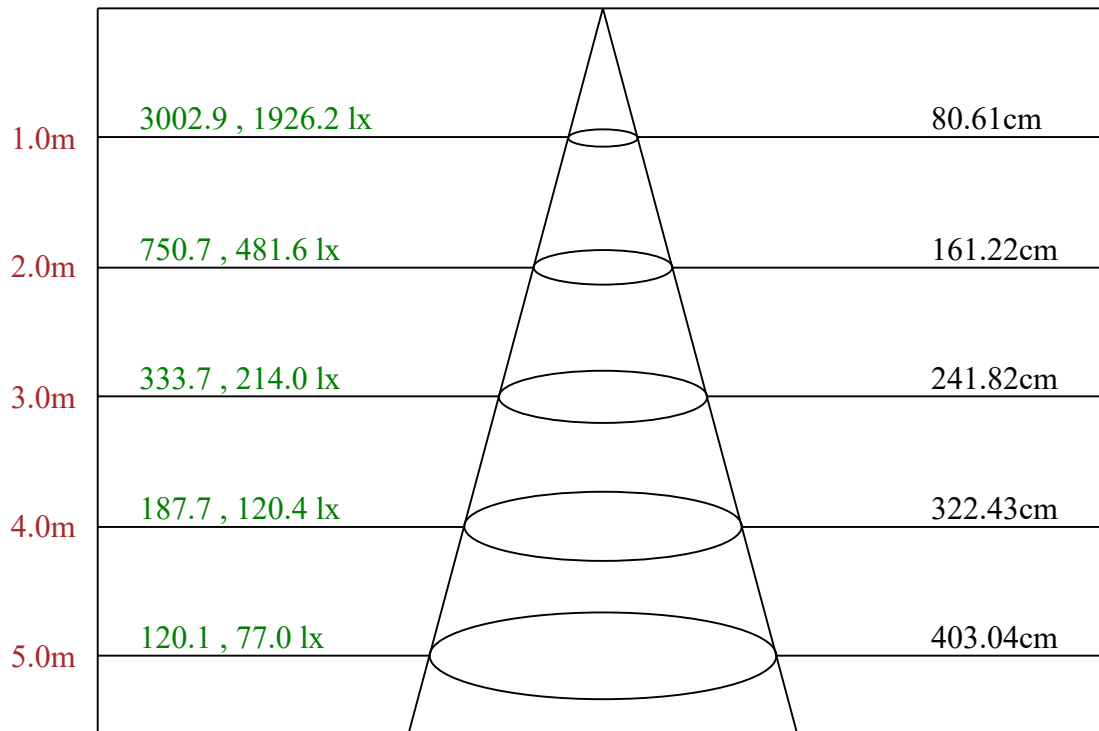
C90/C270: —————

Field angle(10%Imax):C0/180Left:38.8 Right:38.8

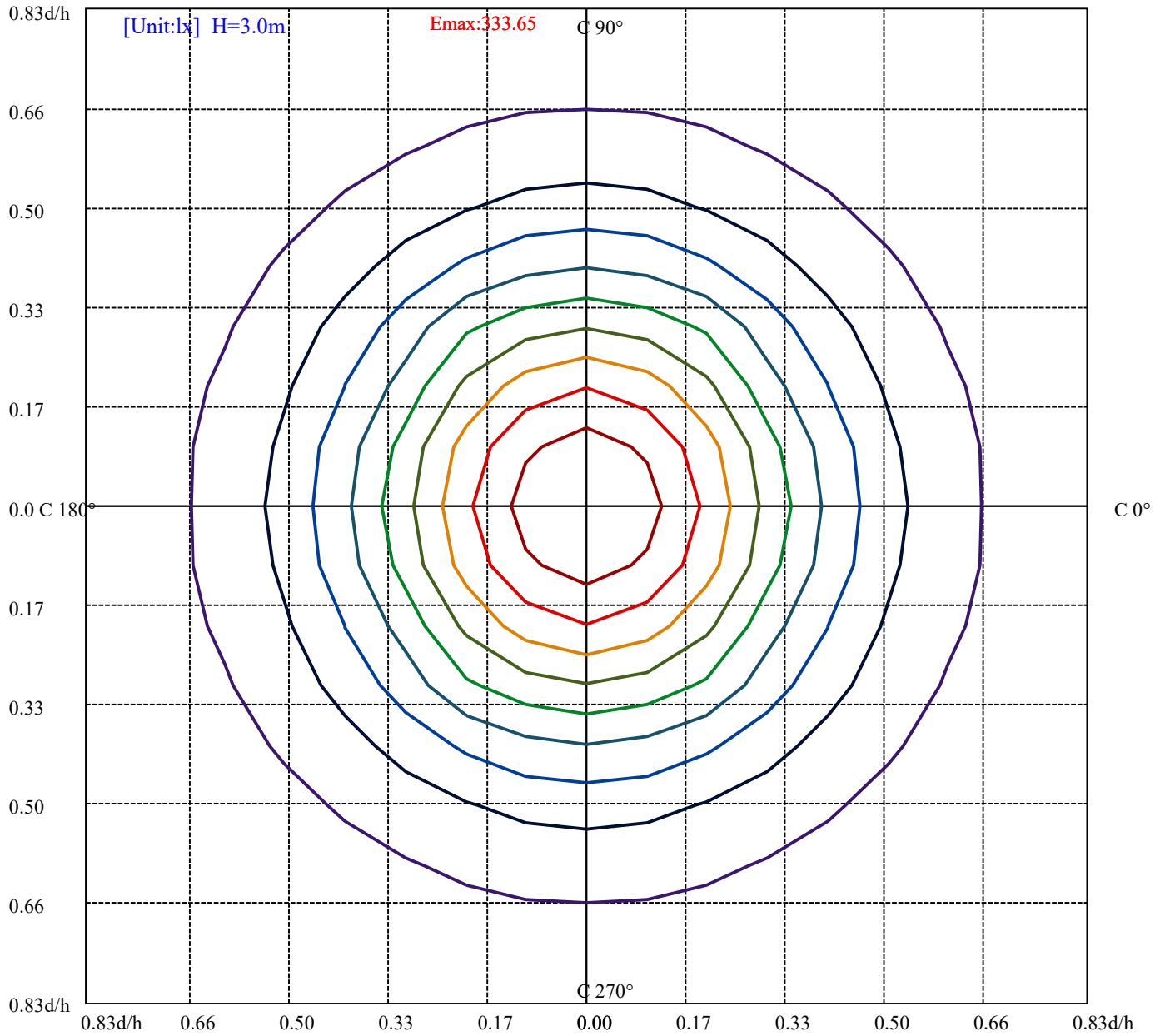
:C90/270Left:38.8 Right:38.8

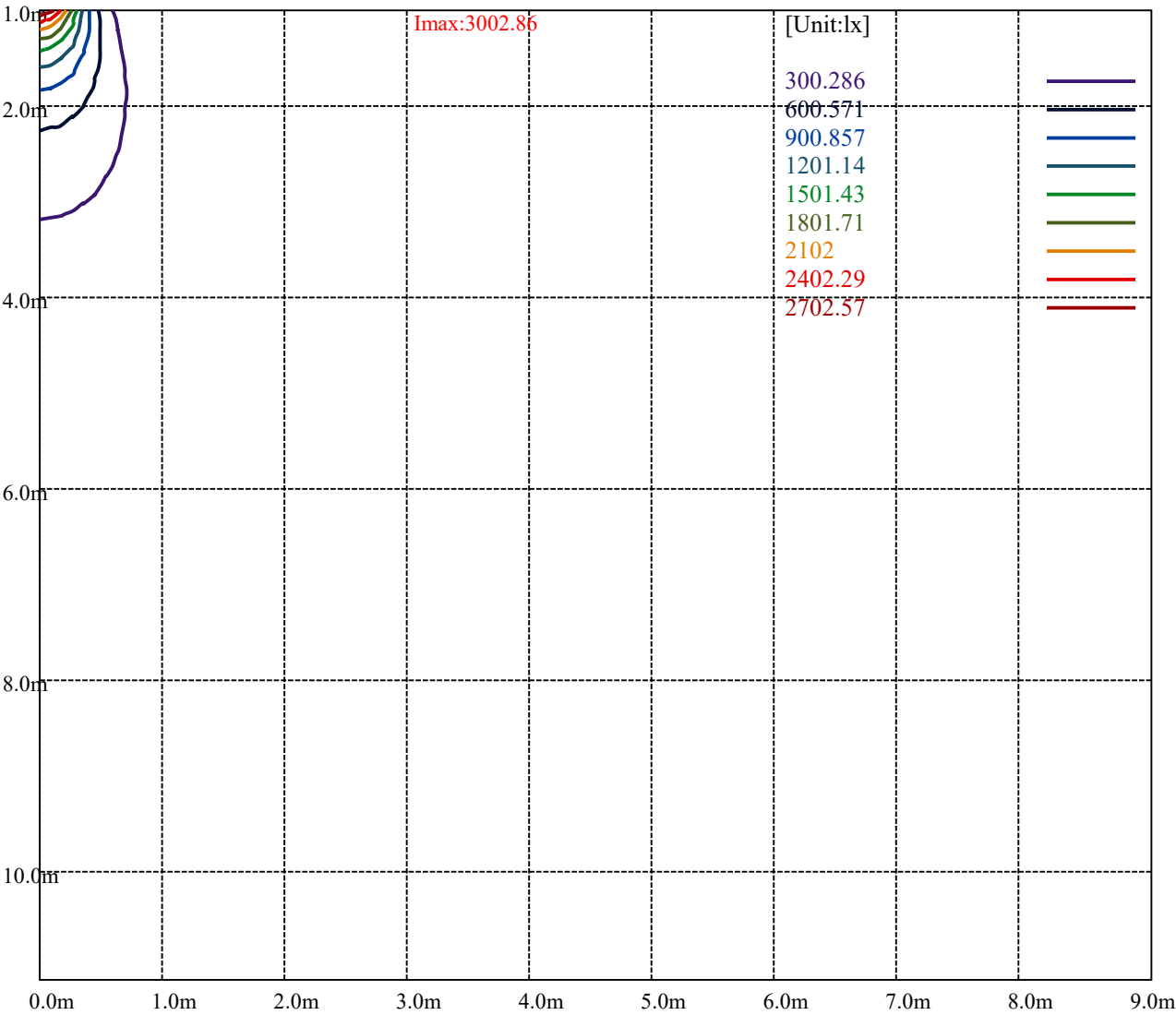
Beam Angle(50%Imax):C0/180Left:21.1 Right:21.1

:C90/270Left:21.5 Right:21.5



Max , Ave Beam angle of C90 plane 43.90





Luminance Table

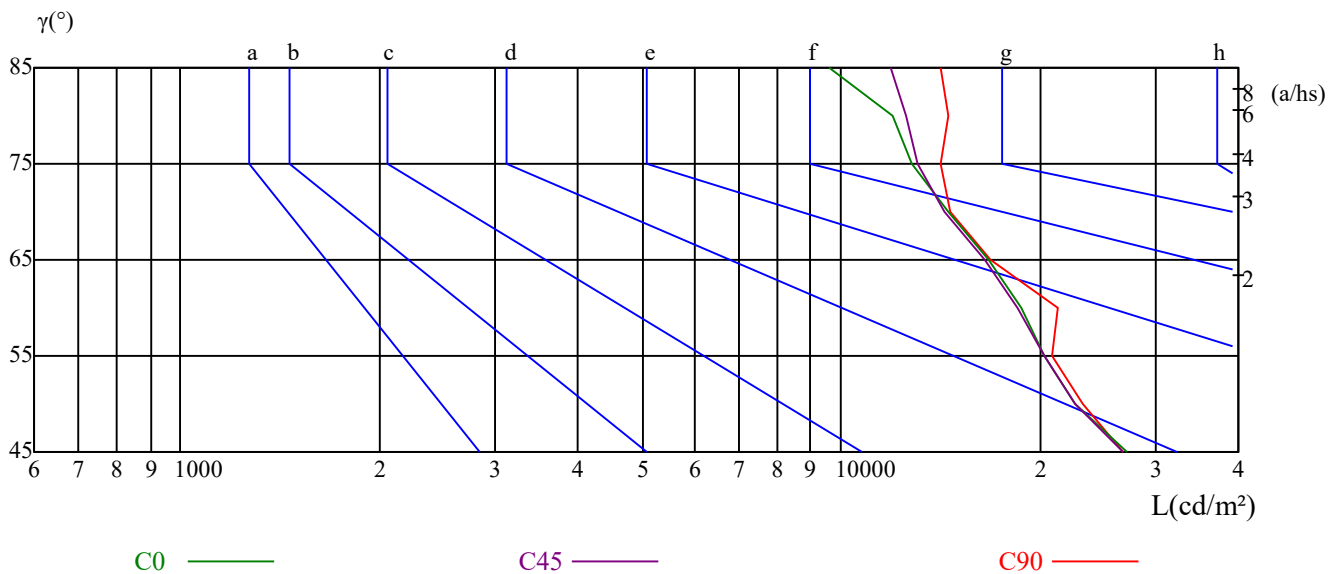
γ	45	50	55	60	65	70	75	80	85
C0	27092	22661	20393	18715	16711	14583	12791	11947	9623
C45	26687	22588	20321	18576	16537	14369	13065	12592	11900
C90	26822	23234	20926	21348	16802	14600	14160	14510	14192

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
16711	16802	16537	12791	14160	13065	9623	14192	11900

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



RHOC	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	1.09	1.06	1.04	1.07	1.05	1.02	1.03	1.01	0.99	0.99	0.98	0.96	0.96	0.94	0.93	0.91
2	1.01	0.96	0.92	0.99	0.95	0.91	0.96	0.92	0.89	0.93	0.90	0.87	0.90	0.87	0.85	0.84
3	0.93	0.88	0.83	0.92	0.87	0.83	0.89	0.85	0.81	0.87	0.83	0.80	0.84	0.81	0.79	0.77
4	0.87	0.81	0.76	0.86	0.80	0.76	0.83	0.79	0.75	0.81	0.77	0.74	0.79	0.76	0.73	0.71
5	0.81	0.75	0.70	0.80	0.74	0.70	0.78	0.73	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.66
6	0.76	0.70	0.65	0.75	0.69	0.65	0.74	0.68	0.64	0.72	0.68	0.64	0.71	0.67	0.64	0.62
7	0.72	0.65	0.61	0.71	0.65	0.61	0.70	0.64	0.60	0.68	0.64	0.60	0.67	0.63	0.60	0.58
8	0.68	0.61	0.57	0.67	0.61	0.57	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.56	0.55
9	0.64	0.58	0.54	0.64	0.58	0.54	0.63	0.57	0.54	0.62	0.57	0.53	0.61	0.56	0.53	0.52
10	0.61	0.55	0.51	0.60	0.55	0.51	0.60	0.54	0.51	0.59	0.54	0.51	0.58	0.54	0.50	0.49

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Appendix Page: 10 Total:12

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	3002.86	2993.87	2818.72	2399.23	1881.84	1327.62	850.64	501.22	309.90
15.0	3002.86	3012.84	2839.56	2444.02	1921.47	1335.41	873.64	516.20	317.52
30.0	3002.86	3035.08	2894.23	2512.20	1971.83	1395.56	887.42	518.27	324.96
45.0	3002.86	3047.61	2902.40	2515.17	1967.20	1425.63	905.06	534.27	314.17
60.0	3002.86	3046.07	2909.99	2528.43	1979.53	1411.32	890.01	522.24	319.96
75.0	3002.86	3054.82	2922.13	2515.68	1995.10	1414.20	893.62	519.65	301.58
90.0	3002.86	3044.81	2898.44	2503.16	1958.71	1408.67	882.86	528.60	296.46
105.0	3002.86	3049.05	2900.09	2497.51	1945.02	1368.02	854.19	526.09	298.87
120.0	3002.86	3021.48	2837.12	2443.25	1901.34	1338.95	835.21	527.94	290.51
135.0	3002.86	2993.64	2791.73	2369.46	1826.42	1266.79	805.80	524.60	284.89
150.0	3002.86	2979.01	2769.89	2312.22	1367.52	1223.52	750.26	522.79	279.74
165.0	3002.86	2960.12	2712.76	2253.51	1700.59	1162.22	734.80	512.90	261.00
180.0	3002.86	2815.12	2417.20	1886.33	1334.80	874.90	514.70	312.59	220.07
195.0	3002.86	2796.01	2414.99	1862.50	1339.95	860.03	506.22	308.45	218.64
210.0	3002.86	2793.89	2368.59	1884.38	1342.17	858.88	507.23	309.31	220.93
225.0	3002.86	2774.54	2370.87	1895.96	1335.21	876.75	512.35	309.60	217.36
240.0	3002.86	2769.32	2388.68	1871.96	1327.66	872.54	512.12	309.85	216.99
255.0	3002.86	2790.36	2393.19	1895.81	1350.17	871.35	530.79	317.36	222.71
270.0	3002.86	2788.43	2397.81	1927.01	1350.87	894.05	533.26	316.97	224.68
285.0	3002.86	2794.50	2433.40	1910.14	1387.82	912.64	542.12	329.98	294.16
300.0	3002.86	2798.01	2419.05	1934.86	1819.41	932.98	554.95	331.48	228.12
315.0	3002.86	2814.78	2440.46	1978.55	1450.26	960.69	573.47	340.21	234.18
330.0	3002.86	2840.52	2495.66	1979.28	1496.84	970.38	600.75	355.87	242.14
345.0	3002.86	2855.53	2518.14	1967.04	1500.52	995.80	602.03	356.49	239.17
360.0	3002.86	2993.87	2818.72	2399.23	1881.84	1327.62	850.64	501.22	309.90
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	222.77	166.18	132.04	106.89	83.54	60.18	40.42	27.85	14.37
15.0	224.08	169.65	135.17	108.86	84.37	61.69	42.64	28.12	14.52
30.0	229.22	172.14	135.32	108.63	84.69	61.68	42.35	29.46	14.73
45.0	222.84	168.96	135.17	108.68	83.11	60.28	42.01	27.40	15.53
60.0	221.58	168.26	132.40	105.73	80.91	59.76	41.37	27.58	17.47
75.0	218.07	167.03	132.70	104.86	81.66	58.46	40.83	28.77	18.56
90.0	212.56	165.94	130.52	106.28	81.11	56.87	40.09	27.97	17.71
105.0	214.02	163.11	129.17	102.77	80.14	56.57	39.60	27.34	16.03
120.0	208.57	161.08	126.63	100.56	75.42	54.00	37.24	25.14	14.90
135.0	208.37	156.73	125.39	99.57	75.60	53.47	36.88	22.13	12.91
150.0	202.70	155.00	122.90	98.14	76.13	53.20	36.69	23.85	10.09
165.0	195.52	151.87	120.04	97.31	74.57	51.84	35.47	22.74	10.00
180.0	167.07	130.25	105.99	83.54	60.18	41.32	26.95	14.37	2.69
195.0	165.11	129.73	107.05	84.37	61.69	42.64	28.12	14.52	2.72
210.0	163.86	131.64	106.78	83.77	60.76	41.43	28.54	14.73	4.60
225.0	162.56	127.86	103.20	83.11	60.28	41.10	28.31	18.27	5.48
240.0	166.42	131.48	109.41	87.35	61.60	42.29	32.18	20.23	6.44
255.0	170.74	136.41	113.21	88.16	62.17	43.61	34.33	31.55	7.42
270.0	173.40	137.98	113.74	110.94	63.39	44.75	34.49	23.31	7.46
285.0	177.25	139.54	115.02	90.51	65.05	45.25	35.83	22.63	9.43
300.0	174.12	136.87	114.53	90.32	67.04	45.62	33.52	22.35	8.38
315.0	174.25	137.37	110.64	86.67	65.46	45.18	30.43	21.21	8.30
330.0	179.77	139.41	112.81	88.97	65.12	45.86	32.10	17.43	7.34
345.0	180.06	141.87	112.77	90.94	67.30	46.38	31.83	19.10	7.28
360.0	222.77	166.18	132.04	106.89	83.54	60.18	40.42	27.85	14.37

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Intensity data(cd)									Appendix Page: 11 Total:12		
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0		
0.0	2.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
15.0	3.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
30.0	4.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
45.0	5.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
60.0	5.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
75.0	5.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
90.0	4.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
105.0	4.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
120.0	4.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
135.0	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
150.0	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
165.0	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
195.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
210.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
225.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
240.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
255.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
270.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
285.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
300.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
315.0	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
330.0	1.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
345.0	0.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
360.0	2.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0		
0.0	0.00	0.90	1.80	2.69	5.39	7.19	8.08	8.98	8.98		
15.0	0.00	0.91	1.81	2.72	4.54	7.26	8.16	9.07	9.07		
30.0	0.00	0.92	0.92	2.76	4.60	7.36	8.29	9.21	9.21		
45.0	0.00	0.91	0.91	2.74	4.57	7.31	8.22	9.13	9.13		
60.0	0.00	0.92	1.84	2.76	4.60	7.36	8.27	9.19	9.19		
75.0	0.00	0.93	1.86	2.78	4.64	7.42	8.35	9.28	9.28		
90.0	0.00	0.93	1.86	2.80	4.66	7.46	8.39	9.32	9.32		
105.0	0.00	0.94	1.89	2.83	4.71	7.54	8.49	9.43	9.43		
120.0	0.00	0.93	1.86	2.79	5.59	7.45	8.38	9.31	9.31		
135.0	0.00	0.92	1.84	2.77	5.53	7.38	8.30	9.22	9.22		
150.0	0.00	0.92	1.83	2.75	5.50	7.34	9.17	9.17	9.17		
165.0	0.00	0.91	1.82	2.73	5.46	7.28	9.09	9.09	9.09		
180.0	0.00	0.90	0.90	1.80	3.59	5.39	6.29	7.19	8.08		
195.0	0.00	0.91	0.91	1.81	3.63	3.63	6.35	7.26	8.16		
210.0	0.00	0.00	0.92	1.84	3.68	5.52	6.44	7.36	8.29		
225.0	0.00	0.91	0.91	1.83	3.65	5.48	6.39	7.31	8.22		
240.0	0.00	0.92	0.92	1.84	3.68	5.52	6.44	7.36	8.27		
255.0	0.00	0.93	0.93	1.86	3.71	5.57	6.50	7.42	8.35		
270.0	0.00	0.93	0.93	1.86	3.73	5.59	6.53	7.46	8.39		
285.0	0.00	0.00	0.94	1.89	3.77	4.71	6.60	7.54	8.49		
300.0	0.00	0.00	0.93	1.86	3.72	4.66	6.52	7.45	8.38		
315.0	0.00	0.00	0.92	1.84	2.77	4.61	6.45	7.38	8.30		
330.0	0.00	0.00	0.92	1.83	2.75	4.59	6.42	7.34	8.25		
345.0	0.00	0.00	0.91	1.82	2.73	4.55	6.37	7.28	8.18		
360.0	0.00	0.90	1.80	2.69	5.39	7.19	8.08	8.98	8.98		

Intensity data(cd)

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C/ γ (°)	180.0
0.0	8.08
15.0	9.07
30.0	9.21
45.0	9.13
60.0	9.19
75.0	9.28
90.0	9.32
105.0	9.43
120.0	9.31
135.0	9.22
150.0	9.17
165.0	9.09
180.0	0.00
195.0	0.00
210.0	0.00
225.0	0.00
240.0	0.00
255.0	0.00
270.0	0.00
285.0	0.00
300.0	0.00
315.0	0.00
330.0	0.00
345.0	0.00
360.0	8.08