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Nata

LumCAT: 2-2188-M
Luminaire: 92.70.131.00
Report No: NATA0100
Test No: GC20200211702
LampCAT: TRIDONIC SLE G7 15MM
Lamp flux(lm): 2639.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.8800
Current(A): 0.6000
Power (W): 20.9280
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 2025.28
Efficiency(%): 76.74%
Lumens(lm)/Power(W): 96.77
Central intensity(cd): 5733.000
Maximum intensity(cd): 5733.000
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=36.4
[C90/270]Total=36.4
Field angle(10%Imax): [C0/180]Total=54.1
[C90/270]Total=54.1
Maximum s/h(1/2): C0_180=0.60 C90_270=0.60
Maximum s/h(1/4): C0_180=0.57 C90_270=0.57
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 76.74%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.694%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5733.000	0.000	0	.000%	.000%
1.0	5722.313	5.481	5.481	.208%	.271%
2.0	5688.211	16.377	21.859	.621%	1.079%
3.0	5629.992	27.069	48.928	1.026%	2.416%
4.0	5552.789	37.432	86.36	1.418%	4.264%
5.0	5464.617	47.396	133.757	1.796%	6.604%
6.0	5331.516	56.737	190.493	2.150%	9.406%
7.0	5196.234	65.346	255.839	2.476%	12.632%
8.0	5048.508	73.320	329.158	2.778%	16.252%
9.0	4877.086	80.442	409.6	3.048%	20.224%
10.0	4691.320	86.591	496.191	3.281%	24.500%
11.0	4515.188	91.992	588.183	3.486%	29.042%
12.0	4318.875	96.569	684.751	3.659%	33.810%
13.0	4100.273	99.914	784.666	3.786%	38.743%
14.0	3901.781	102.426	887.091	3.881%	43.801%
15.0	3681.281	104.104	991.195	3.945%	48.941%
16.0	3462.680	104.679	1095.874	3.967%	54.110%
17.0	3186.633	103.548	1199.422	3.924%	59.222%
18.0	2918.461	100.660	1300.081	3.814%	64.193%
19.0	2656.195	96.988	1397.069	3.675%	68.981%
20.0	2378.813	92.155	1489.224	3.492%	73.532%
21.0	2087.227	85.757	1574.98	3.250%	77.766%
22.0	1833.539	78.789	1653.77	2.986%	81.656%
23.0	1550.257	71.001	1724.771	2.690%	85.162%
24.0	1218.776	60.541	1785.312	2.294%	88.151%
25.0	1014.040	50.769	1836.081	1.924%	90.658%
26.0	798.405	42.783	1878.864	1.621%	92.770%
27.0	580.310	33.731	1912.595	1.278%	94.436%
28.0	390.945	24.590	1937.185	.932%	95.650%
29.0	253.744	16.867	1954.052	.639%	96.483%
30.0	132.799	10.437	1964.489	.395%	96.998%
31.0	70.130	5.647	1970.136	.214%	97.277%
32.0	42.398	3.224	1973.36	.122%	97.436%
33.0	29.693	2.124	1975.483	.080%	97.541%
34.0	22.507	1.580	1977.063	.060%	97.619%
35.0	17.670	1.248	1978.311	.047%	97.681%
36.0	15.223	1.047	1979.358	.040%	97.732%
37.0	13.823	0.947	1980.306	.036%	97.779%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	12.832	0.890	1981.195	.034%	97.823%
39.0	12.080	0.850	1982.046	.032%	97.865%
40.0	11.609	0.826	1982.872	.031%	97.906%
41.0	11.194	0.812	1983.684	.031%	97.946%
42.0	10.856	0.801	1984.485	.030%	97.985%
43.0	10.554	0.793	1985.278	.030%	98.025%
44.0	10.301	0.787	1986.065	.030%	98.063%
45.0	10.111	0.784	1986.849	.030%	98.102%
46.0	9.900	0.783	1987.632	.030%	98.141%
47.0	9.759	0.782	1988.414	.030%	98.179%
48.0	9.633	0.784	1989.198	.030%	98.218%
49.0	9.499	0.786	1989.984	.030%	98.257%
50.0	9.394	0.788	1990.771	.030%	98.296%
51.0	9.302	0.791	1991.562	.030%	98.335%
52.0	9.204	0.794	1992.356	.030%	98.374%
53.0	9.113	0.797	1993.153	.030%	98.413%
54.0	9.021	0.799	1993.952	.030%	98.453%
55.0	8.965	0.803	1994.755	.030%	98.493%
56.0	8.902	0.807	1995.563	.031%	98.532%
57.0	8.866	0.812	1996.375	.031%	98.573%
58.0	8.803	0.817	1997.192	.031%	98.613%
59.0	8.761	0.821	1998.013	.031%	98.653%
60.0	8.712	0.825	1998.839	.031%	98.694%
61.0	8.655	0.829	1999.667	.031%	98.735%
62.0	8.613	0.832	2000.5	.032%	98.776%
63.0	8.592	0.837	2001.336	.032%	98.818%
64.0	8.564	0.842	2002.178	.032%	98.859%
65.0	8.529	0.846	2003.024	.032%	98.901%
66.0	8.501	0.850	2003.874	.032%	98.943%
67.0	8.487	0.854	2004.728	.032%	98.985%
68.0	8.452	0.858	2005.586	.033%	99.027%
69.0	8.430	0.861	2006.447	.033%	99.070%
70.0	8.438	0.866	2007.314	.033%	99.113%
71.0	8.423	0.871	2008.185	.033%	99.156%
72.0	8.423	0.876	2009.061	.033%	99.199%
73.0	8.402	0.880	2009.941	.033%	99.242%
74.0	8.402	0.883	2010.824	.033%	99.286%
75.0	8.409	0.888	2011.713	.034%	99.330%

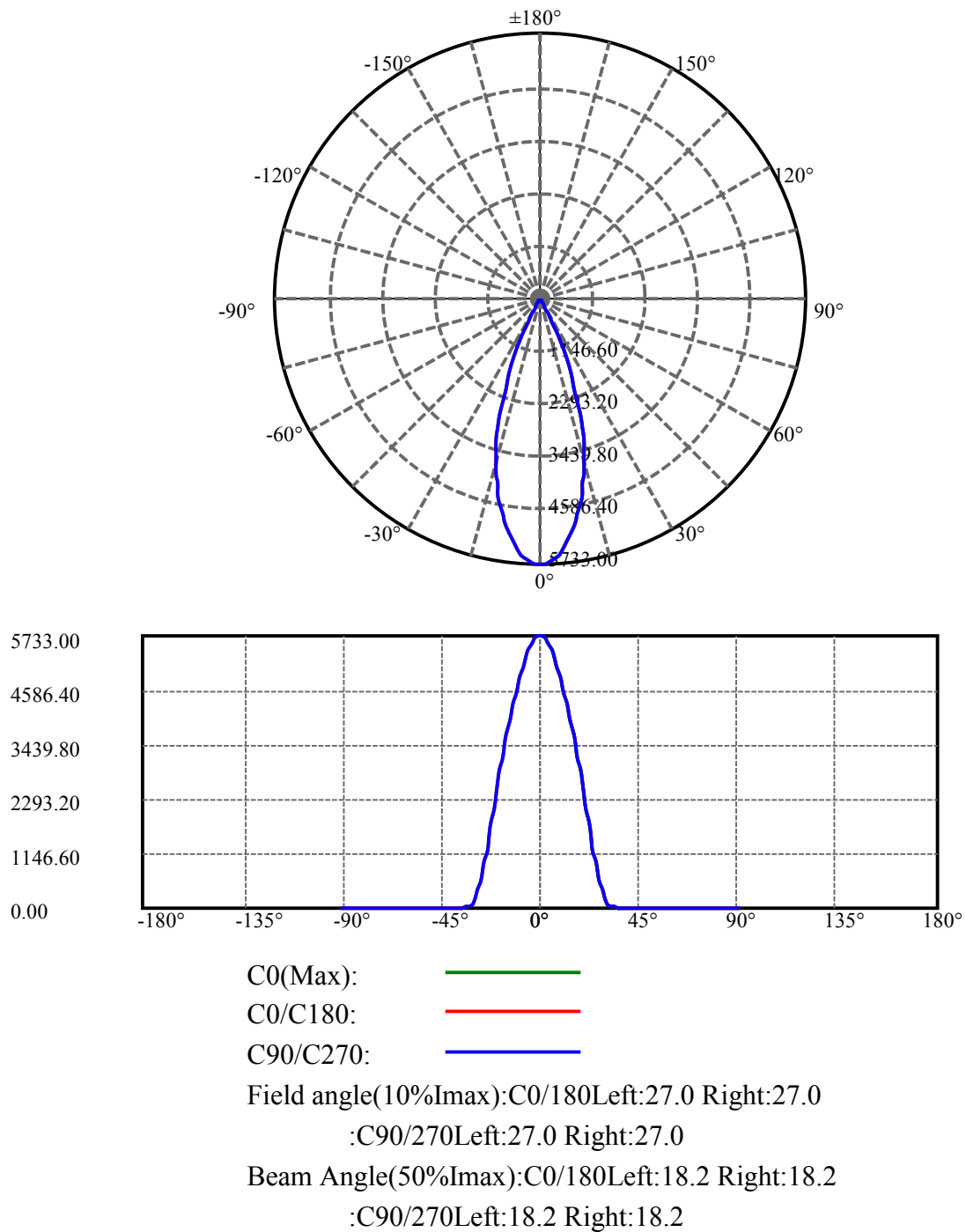
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.395	0.892	2012.605	.034%	99.374%
77.0	8.395	0.895	2013.5	.034%	99.418%
78.0	8.409	0.900	2014.399	.034%	99.463%
79.0	8.402	0.903	2015.303	.034%	99.507%
80.0	8.409	0.906	2016.209	.034%	99.552%
81.0	8.423	0.910	2017.119	.034%	99.597%
82.0	8.402	0.912	2018.032	.035%	99.642%
83.0	8.438	0.915	2018.947	.035%	99.687%
84.0	8.438	0.919	2019.867	.035%	99.732%
85.0	8.438	0.921	2020.788	.035%	99.778%
86.0	8.276	0.914	2021.701	.035%	99.823%
87.0	8.177	0.900	2022.602	.034%	99.868%
88.0	8.156	0.895	2023.496	.034%	99.912%
89.0	8.156	0.894	2024.39	.034%	99.956%
90.0	8.156	0.894	2025.285	.034%	100.000%

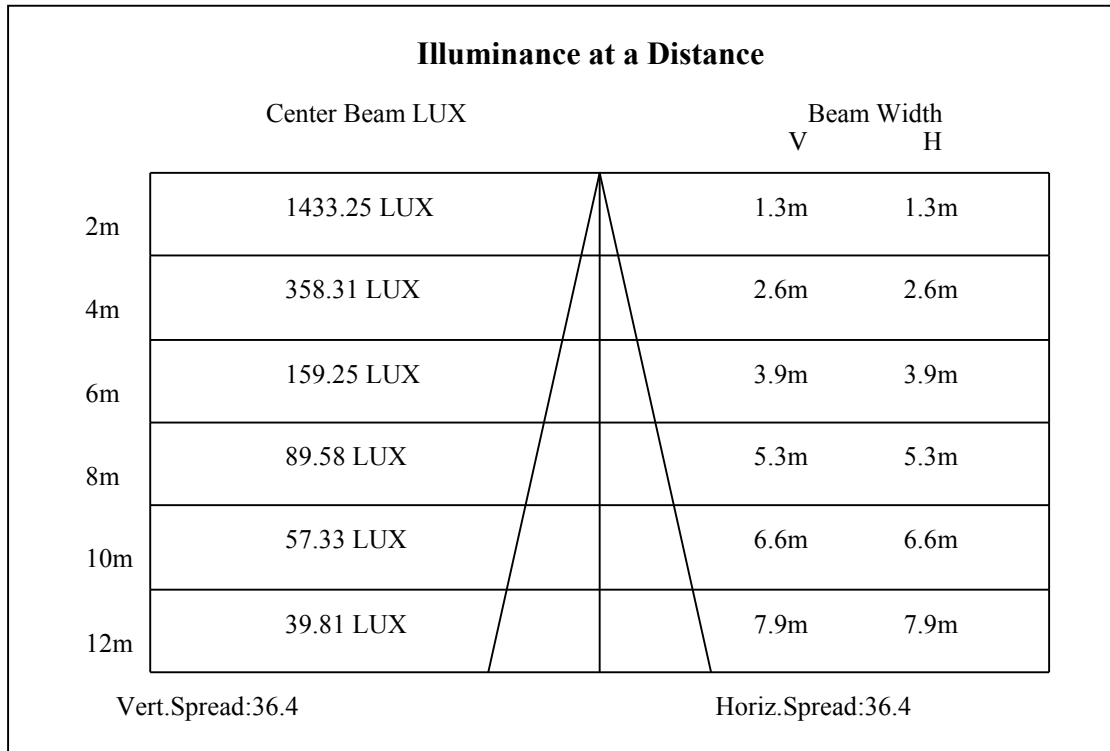
ZONAL LUMEN SUMMARY

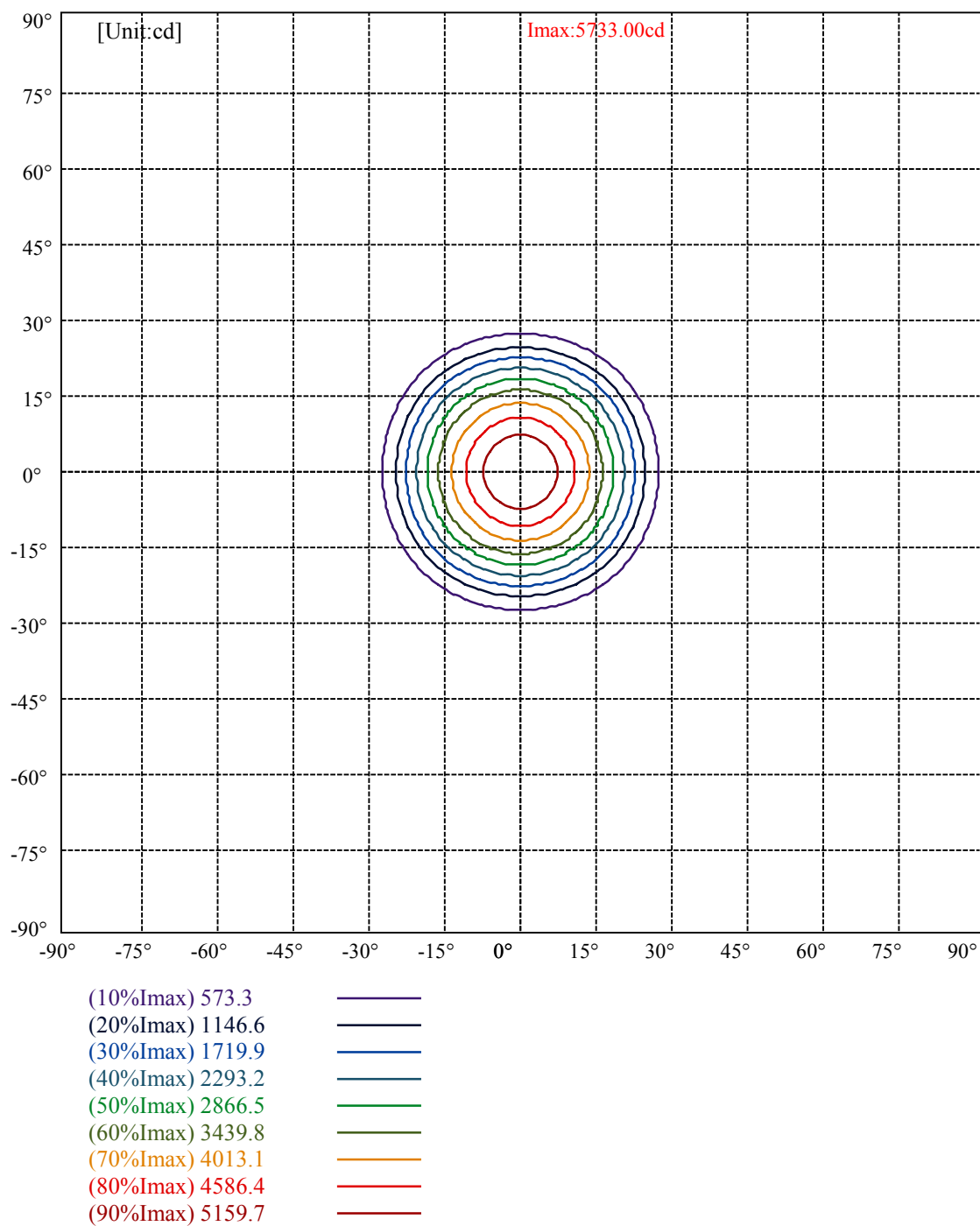
Zone	Lumens	%Lamp	%Fixt
0-30	1964.49	74.44%	97.00%
0-40	1982.87	75.14%	97.91%
0-60	1998.84	75.74%	98.69%
0-90	2024.39	76.71%	99.96%
0-120	2024.39	76.71%	99.96%
0-180	2025.28	76.74%	100.00%
60-90	26.38	1.00%	1.30%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.57	1620.23	61.40%	80.00%

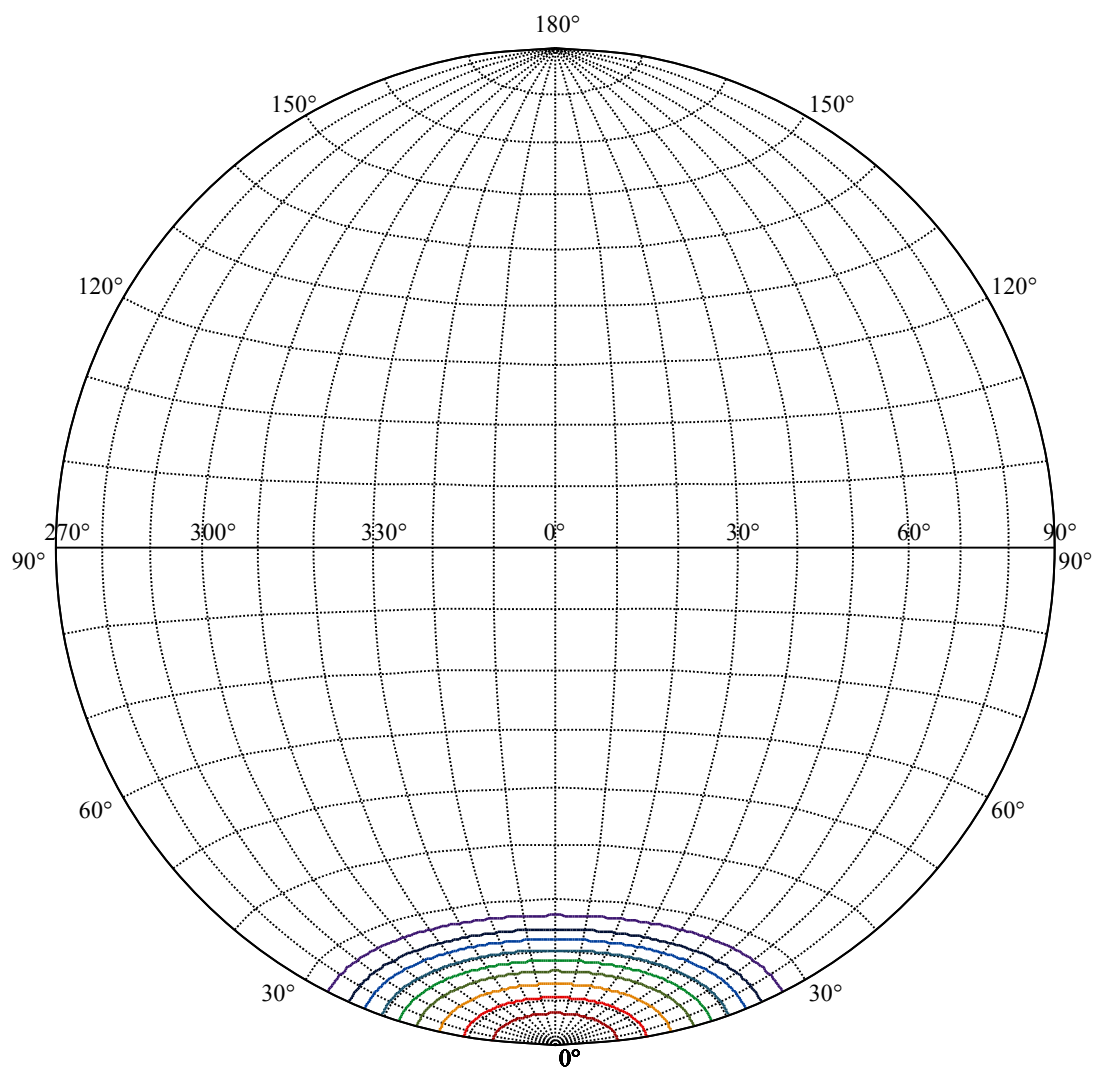
ZONAL LUMEN SUMMARY

0-10	496.19
10-20	993.03
20-30	475.27
30-40	18.38
40-50	7.90
50-60	8.07
60-70	8.47
70-80	8.90
80-90	8.18
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









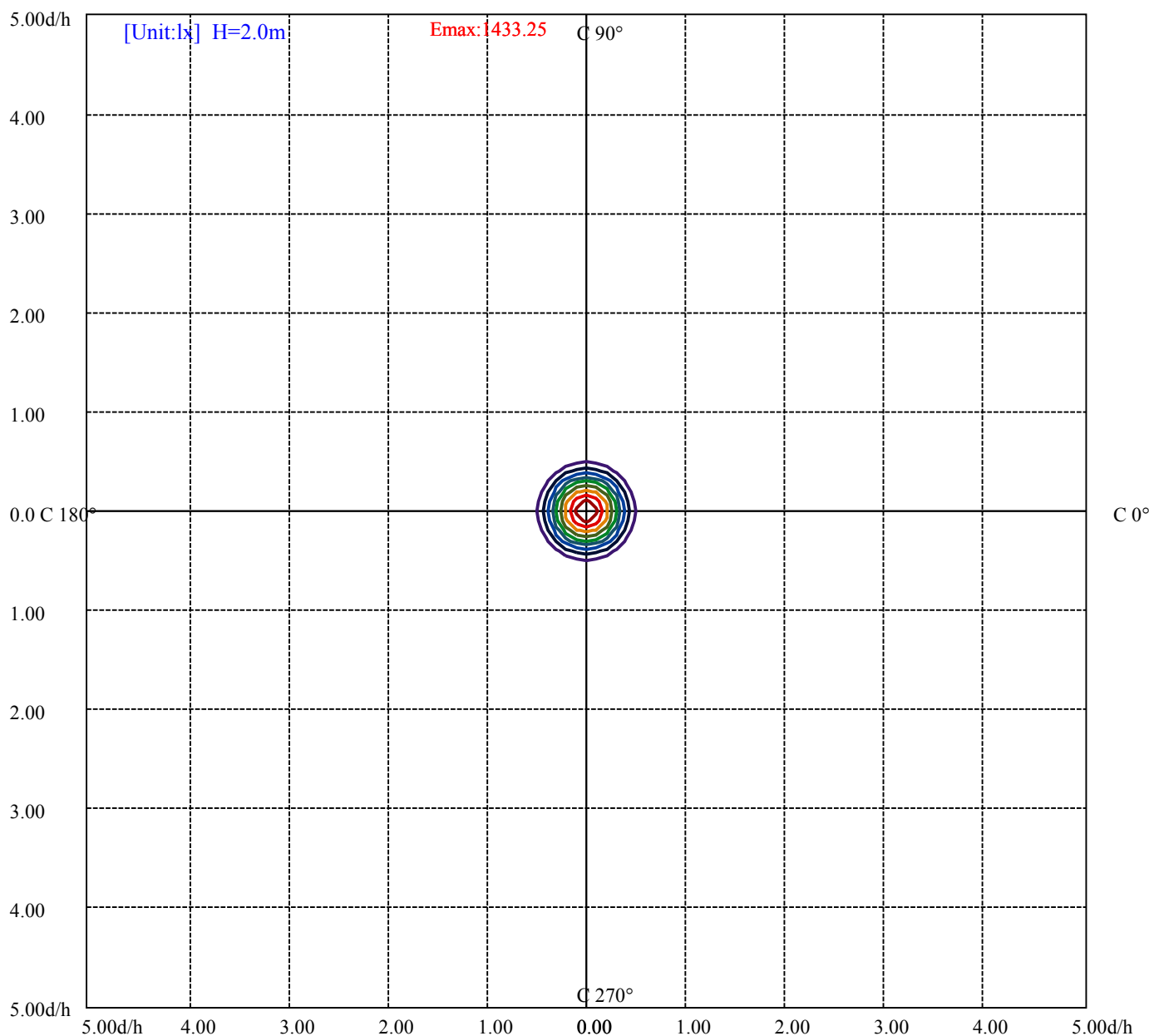
House

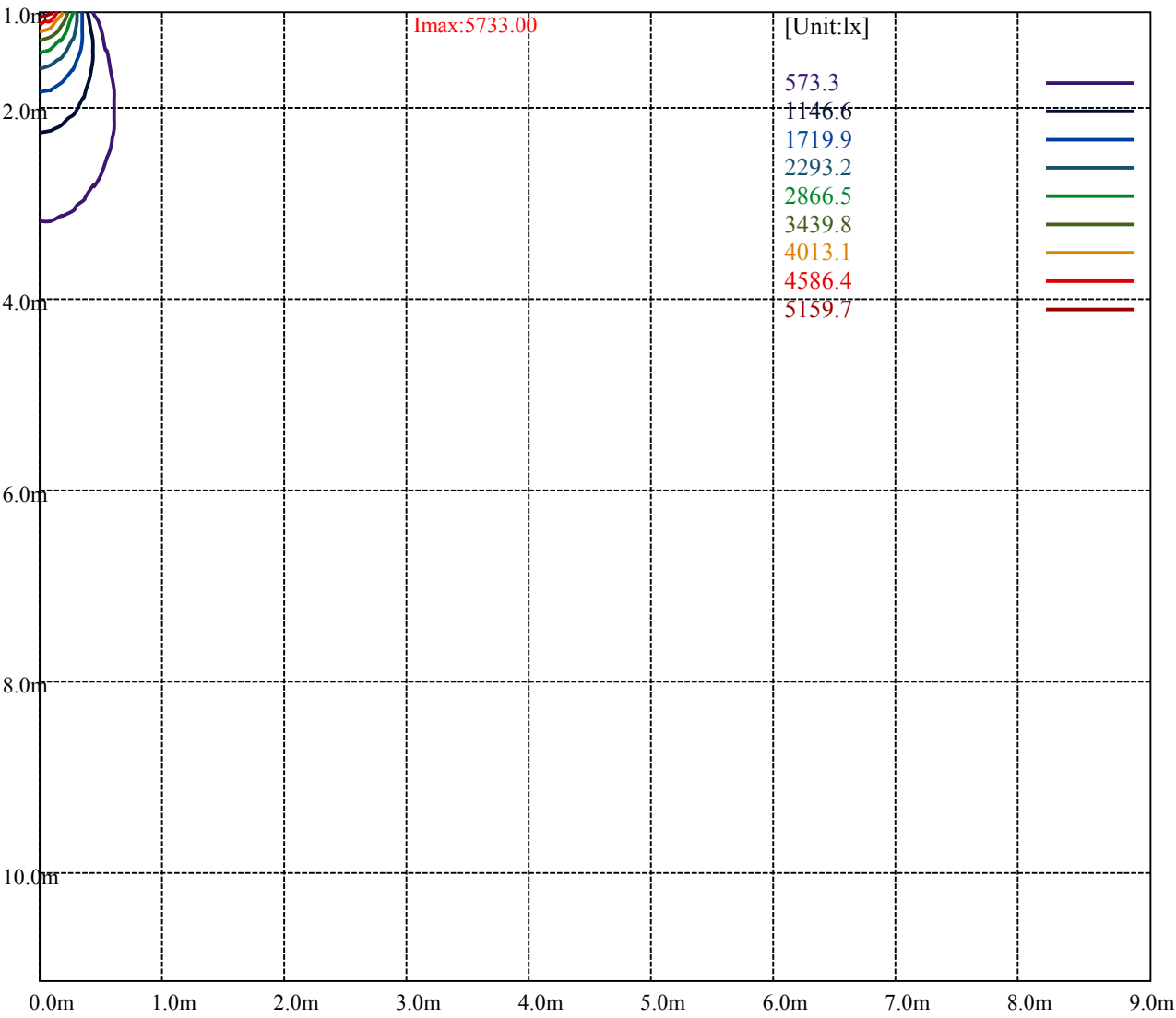
[Unit:cd]

Road

Imax:5733.00

(10%Imax)	573.3	—
(20%Imax)	1146.6	—
(30%Imax)	1719.9	—
(40%Imax)	2293.2	—
(50%Imax)	2866.5	—
(60%Imax)	3439.8	—
(70%Imax)	4013.1	—
(80%Imax)	4586.4	—
(90%Imax)	5159.7	—





Luminance Table

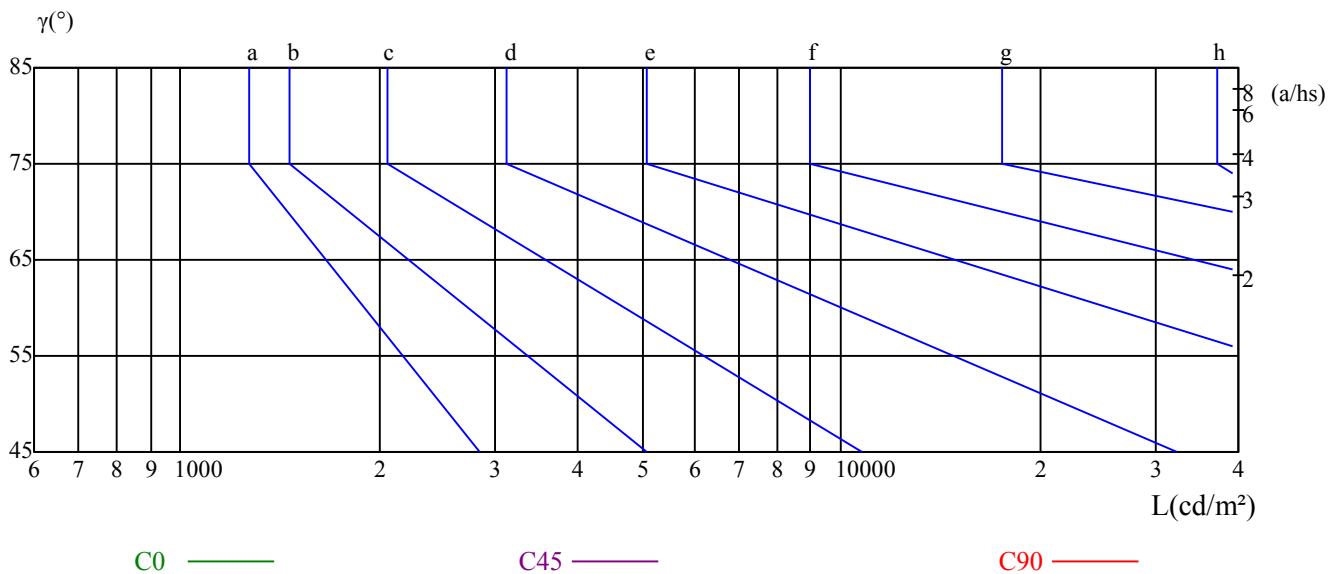
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

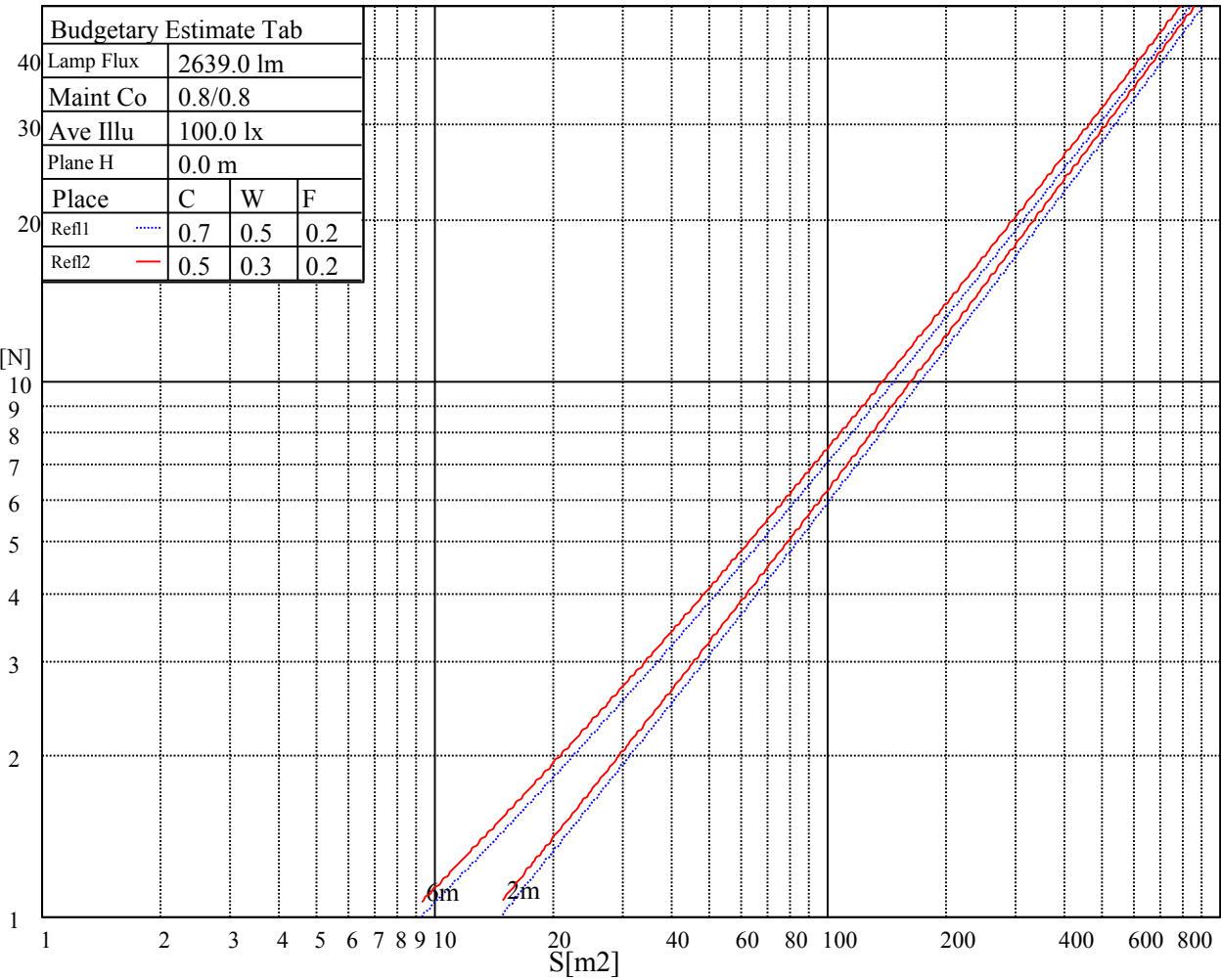
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

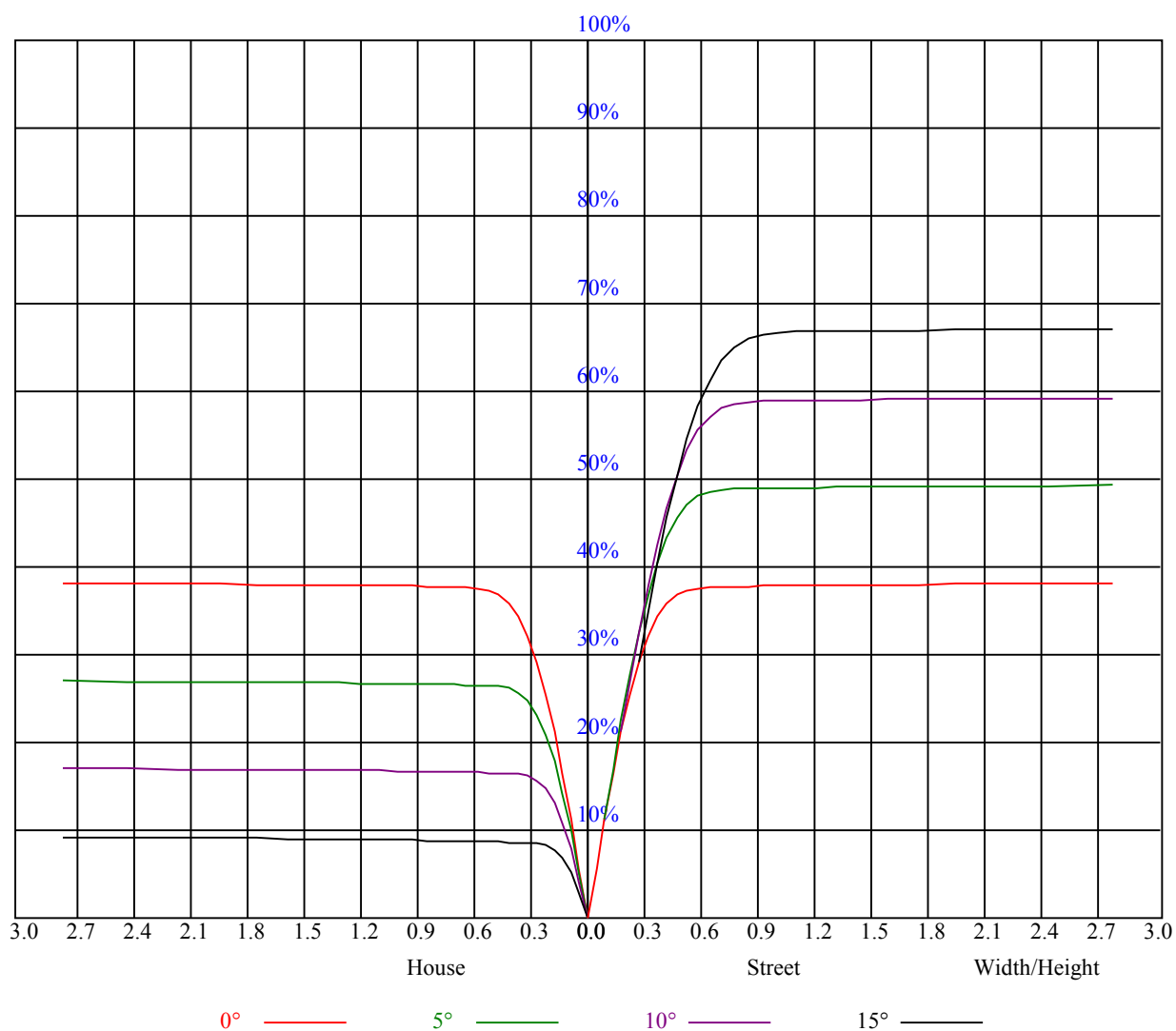
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.82	0.82	0.82	0.78	0.78	0.78	0.77
1	0.86	0.84	0.83	0.84	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76	0.75	0.75	0.73
2	0.82	0.79	0.77	0.80	0.78	0.76	0.78	0.76	0.75	0.76	0.74	0.73	0.74	0.72	0.71	0.70
3	0.78	0.75	0.72	0.77	0.74	0.72	0.75	0.73	0.71	0.73	0.71	0.70	0.71	0.70	0.69	0.68
4	0.74	0.71	0.69	0.74	0.71	0.68	0.72	0.69	0.67	0.71	0.68	0.67	0.69	0.67	0.66	0.65
5	0.71	0.68	0.65	0.71	0.68	0.65	0.69	0.67	0.65	0.68	0.66	0.64	0.67	0.65	0.64	0.63
6	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.61	0.60
7	0.66	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.63	0.61	0.59	0.58
8	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.59	0.57	0.61	0.59	0.57	0.56
9	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.57	0.55	0.59	0.57	0.55	0.54
10	0.59	0.56	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.58	0.55	0.54	0.58	0.55	0.53	0.53



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Intensity data(cd)									Appendix Page: 16 Total:18
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	5721.75	5711.06	5667.19	5610.94	5538.94	5447.25	5304.94	5175.56	5015.25
45.0	5745.38	5717.25	5660.44	5581.69	5495.06	5390.44	5231.81	5087.81	4932.00
90.0	5730.75	5689.13	5633.44	5547.38	5438.25	5321.25	5168.81	4996.69	4833.00
135.0	5734.13	5720.63	5682.94	5619.94	5546.25	5454.56	5311.13	5177.25	5029.31
180.0	5721.75	5716.13	5685.75	5630.63	5552.44	5464.13	5340.94	5210.44	5048.44
225.0	5745.38	5751.56	5739.75	5700.94	5629.50	5563.69	5457.38	5314.50	5200.31
270.0	5730.75	5747.06	5741.44	5709.94	5659.31	5601.94	5484.94	5378.06	5256.56
315.0	5734.13	5725.69	5694.75	5638.50	5562.56	5473.69	5352.19	5229.56	5073.19
360.0	5721.75	5711.06	5667.19	5610.94	5538.94	5447.25	5304.94	5175.56	5015.25
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4843.69	4677.19	4484.81	4304.81	4095.00	3901.50	3674.25	3454.88	3187.69
45.0	4726.69	4550.63	4364.44	4149.56	3934.13	3734.44	3494.25	3266.44	2986.31
90.0	4659.75	4434.19	4246.88	4059.00	3816.56	3611.25	3391.31	3153.94	2842.88
135.0	4833.56	4662.56	4506.19	4273.88	4057.88	3889.13	3633.19	3413.81	3172.50
180.0	4890.94	4704.19	4506.75	4325.06	4114.69	3895.88	3693.94	3473.44	3179.25
225.0	5056.31	4833.56	4682.25	4503.38	4268.25	4075.88	3879.00	3670.88	3389.63
270.0	5083.31	4930.31	4788.00	4573.69	4367.25	4176.56	3955.50	3753.00	3511.69
315.0	4922.44	4737.94	4542.19	4361.63	4148.44	3929.63	3728.81	3515.06	3223.13
360.0	4843.69	4677.19	4484.81	4304.81	4095.00	3901.50	3674.25	3454.88	3187.69
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2909.81	2660.06	2376.00	2089.13	1834.31	1581.19	1265.63	1019.81	813.38
45.0	2697.75	2438.44	2138.06	1852.31	1594.69	1348.88	1038.94	812.81	615.94
90.0	2582.44	2291.06	2035.69	1748.81	1494.00	1094.68	954.79	739.46	523.69
135.0	2858.06	2597.63	2327.63	2006.44	1757.25	1508.63	1194.19	963.00	750.94
180.0	2924.44	2664.56	2376.00	2093.06	1843.31	1559.81	1102.61	1046.25	796.73
225.0	3147.19	2864.25	2609.44	2319.19	2061.56	1773.56	1485.56	1113.02	969.98
270.0	3249.00	3003.75	2723.63	2434.50	2179.13	1927.13	1611.56	1351.69	1103.63
315.0	2979.00	2729.81	2444.06	2154.38	1904.06	1608.19	1096.93	1066.28	812.98
360.0	2909.81	2660.06	2376.00	2089.13	1834.31	1581.19	1265.63	1019.81	813.38
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	553.50	360.00	284.63	100.18	50.74	34.31	23.96	18.90	15.86
45.0	408.38	295.88	129.38	60.36	38.31	27.17	20.81	16.93	14.79
90.0	360.56	206.27	101.53	61.48	42.81	28.46	21.77	17.78	15.08
135.0	538.88	343.13	288.00	102.26	61.59	43.88	30.83	23.51	18.56
180.0	593.61	398.70	234.23	124.31	71.55	45.73	33.41	25.26	19.13
225.0	745.99	522.96	332.66	199.41	103.84	54.56	37.91	27.56	20.19
270.0	835.88	598.50	420.19	285.19	127.29	67.39	42.47	30.09	21.83
315.0	605.70	402.13	239.34	129.21	64.91	37.69	26.38	20.03	15.92
360.0	553.50	360.00	284.63	100.18	50.74	34.31	23.96	18.90	15.86
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	14.18	13.22	12.54	11.87	11.42	11.08	10.69	10.41	10.18
45.0	13.61	12.94	12.26	11.81	11.36	11.08	10.80	10.52	10.35
90.0	13.84	12.99	12.32	11.81	11.42	11.08	10.80	10.58	10.35
135.0	15.58	14.06	13.05	12.15	11.70	11.31	10.91	10.69	10.41
180.0	16.26	14.46	13.11	12.32	11.81	11.25	10.97	10.63	10.29
225.0	16.93	14.85	13.50	12.54	11.98	11.48	11.08	10.69	10.35
270.0	17.21	14.91	13.56	12.43	11.87	11.42	10.97	10.63	10.41
315.0	14.18	13.16	12.32	11.70	11.31	10.86	10.63	10.29	10.07
360.0	14.18	13.22	12.54	11.87	11.42	11.08	10.69	10.41	10.18

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Intensity data(cd)										Appendix Page: 17 Total:18	
C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	10.01	9.84	9.73	9.56	9.45	9.34	9.28	9.17	9.06		
45.0	10.13	9.90	9.79	9.68	9.51	9.45	9.34	9.23	9.11		
90.0	10.13	9.96	9.79	9.68	9.62	9.45	9.34	9.23	9.17		
135.0	10.18	9.96	9.84	9.73	9.56	9.45	9.39	9.28	9.17		
180.0	10.18	9.96	9.79	9.68	9.51	9.34	9.28	9.23	9.11		
225.0	10.18	9.90	9.73	9.56	9.45	9.39	9.28	9.17	9.11		
270.0	10.13	9.96	9.79	9.68	9.51	9.45	9.34	9.23	9.17		
315.0	9.96	9.73	9.62	9.51	9.39	9.28	9.17	9.11	9.00		
360.0	10.01	9.84	9.73	9.56	9.45	9.34	9.28	9.17	9.06		
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	9.00	8.94	8.89	8.83	8.78	8.72	8.66	8.61	8.61		
45.0	9.00	9.00	8.94	8.83	8.78	8.72	8.66	8.66	8.61		
90.0	9.06	9.00	8.94	8.94	8.89	8.78	8.78	8.72	8.66		
135.0	9.11	9.06	8.94	8.94	8.89	8.83	8.78	8.72	8.66		
180.0	9.06	9.00	8.89	8.89	8.78	8.78	8.72	8.61	8.61		
225.0	8.94	8.83	8.83	8.83	8.72	8.72	8.66	8.61	8.55		
270.0	9.06	9.00	8.94	8.89	8.83	8.83	8.78	8.72	8.66		
315.0	8.94	8.89	8.83	8.78	8.78	8.72	8.66	8.61	8.55		
360.0	9.00	8.94	8.89	8.83	8.78	8.72	8.66	8.61	8.61		
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	8.55	8.55	8.49	8.44	8.44	8.38	8.38	8.33	8.33		
45.0	8.49	8.55	8.44	8.44	8.44	8.38	8.38	8.33	8.38		
90.0	8.66	8.66	8.61	8.61	8.55	8.55	8.49	8.55	8.55		
135.0	8.61	8.61	8.61	8.55	8.55	8.49	8.49	8.49	8.44		
180.0	8.61	8.49	8.49	8.49	8.49	8.38	8.38	8.38	8.38		
225.0	8.55	8.44	8.44	8.44	8.38	8.33	8.33	8.33	8.27		
270.0	8.72	8.66	8.66	8.61	8.61	8.66	8.61	8.66	8.66		
315.0	8.55	8.55	8.49	8.44	8.44	8.44	8.38	8.44	8.38		
360.0	8.55	8.55	8.49	8.44	8.44	8.38	8.38	8.33	8.33		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	8.38	8.33	8.33	8.33	8.27	8.27	8.27	8.27	8.27		
45.0	8.27	8.27	8.27	8.27	8.27	8.21	8.27	8.21	8.21		
90.0	8.55	8.61	8.61	8.61	8.61	8.66	8.66	8.72	8.72		
135.0	8.44	8.38	8.38	8.38	8.38	8.38	8.38	8.33	8.38		
180.0	8.38	8.33	8.27	8.33	8.27	8.27	8.27	8.27	8.27		
225.0	8.33	8.27	8.27	8.27	8.21	8.21	8.27	8.21	8.16		
270.0	8.72	8.66	8.78	8.78	8.83	8.83	8.89	8.94	8.94		
315.0	8.33	8.38	8.33	8.33	8.33	8.33	8.27	8.27	8.33		
360.0	8.38	8.33	8.33	8.33	8.27	8.27	8.27	8.27	8.27		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	8.33	8.27	8.27	8.33	8.33	8.27	8.16	8.21	8.16		
45.0	8.21	8.21	8.21	8.27	8.27	8.16	8.10	8.04	8.10		
90.0	8.78	8.78	9.00	8.66	8.49	8.16	8.16	8.16	8.16		
135.0	8.38	8.33	8.38	8.38	8.44	8.49	8.21	8.21	8.21		
180.0	8.27	8.21	8.21	8.27	8.21	8.21	8.16	8.16	8.16		
225.0	8.21	8.21	8.21	8.21	8.21	8.16	8.16	8.10	8.10		
270.0	8.89	8.94	8.94	9.11	9.28	8.49	8.27	8.16	8.16		
315.0	8.33	8.27	8.27	8.27	8.27	8.27	8.21	8.21	8.21		
360.0	8.33	8.27	8.27	8.33	8.33	8.27	8.16	8.21	8.16		

Intensity data(cd)

Appendix Page: 18 Total:18

C/ $\gamma(^{\circ})$	90.0
0.0	8.16
45.0	8.10
90.0	8.16
135.0	8.16
180.0	8.21
225.0	8.10
270.0	8.16
315.0	8.21
360.0	8.16