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Nata

LumCAT: 2-2166-M
Luminaire: BJB 47.360.5080
Report No: 200326-B006
Test No: 200326-C006
LampCAT: NICHIA NFCWJ108B-V3
Lamp flux(lm): 2596.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.2000
Current(A): 0.6020
Power (W): 20.6000
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 1945.48
Efficiency(%): 74.94%
Lumens(lm)/Power(W): 94.44
Central intensity(cd): 5487.609
Maximum intensity(cd): 5487.609
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=36.0
[C90/270]Total=36.0
Field angle(10%Imax): [C0/180]Total=54.0
[C90/270]Total=54.0
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
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(%): 74.94%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.814%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5487.609	0.000	0	.000%	.000%
1.0	5477.414	5.247	5.247	.202%	.270%
2.0	5442.820	15.674	20.92	.604%	1.075%
3.0	5386.852	25.901	46.821	.998%	2.407%
4.0	5315.555	35.824	82.646	1.380%	4.248%
5.0	5221.266	45.329	127.975	1.746%	6.578%
6.0	5102.859	54.256	182.231	2.090%	9.367%
7.0	4970.180	62.523	244.754	2.408%	12.581%
8.0	4820.063	70.067	314.821	2.699%	16.182%
9.0	4652.156	76.767	391.588	2.957%	20.128%
10.0	4470.398	82.556	474.144	3.180%	24.371%
11.0	4283.367	87.468	561.612	3.369%	28.867%
12.0	4095.773	91.596	653.208	3.528%	33.576%
13.0	3888.422	94.752	747.96	3.650%	38.446%
14.0	3676.992	96.837	844.797	3.730%	43.423%
15.0	3473.578	98.166	942.963	3.781%	48.469%
16.0	3252.938	98.562	1041.525	3.797%	53.536%
17.0	2993.414	97.272	1138.798	3.747%	58.535%
18.0	2738.461	94.506	1233.304	3.640%	63.393%
19.0	2491.453	90.990	1324.294	3.505%	68.070%
20.0	2215.617	86.152	1410.446	3.319%	72.498%
21.0	1951.945	80.026	1490.472	3.083%	76.612%
22.0	1717.102	73.731	1564.203	2.840%	80.402%
23.0	1432.427	66.086	1630.288	2.546%	83.799%
24.0	1192.845	57.398	1687.686	2.211%	86.749%
25.0	972.795	49.242	1736.928	1.897%	89.280%
26.0	748.202	40.624	1777.552	1.565%	91.368%
27.0	544.542	31.627	1809.18	1.218%	92.994%
28.0	374.309	23.263	1832.443	.896%	94.190%
29.0	241.376	16.108	1848.551	.620%	95.018%
30.0	136.877	10.213	1858.764	.393%	95.542%
31.0	79.320	6.016	1864.78	.232%	95.852%
32.0	52.875	3.787	1868.568	.146%	96.046%
33.0	38.433	2.690	1871.258	.104%	96.185%
34.0	29.419	2.053	1873.311	.079%	96.290%
35.0	23.217	1.635	1874.946	.063%	96.374%
36.0	19.751	1.368	1876.314	.053%	96.445%
37.0	17.902	1.228	1877.542	.047%	96.508%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	16.650	1.153	1878.695	.044%	96.567%
39.0	15.764	1.106	1879.801	.043%	96.624%
40.0	15.202	1.080	1880.881	.042%	96.679%
41.0	14.723	1.066	1881.947	.041%	96.734%
42.0	14.330	1.056	1883.003	.041%	96.788%
43.0	14.020	1.050	1884.053	.040%	96.842%
44.0	13.788	1.050	1885.102	.040%	96.896%
45.0	13.577	1.052	1886.154	.041%	96.950%
46.0	13.430	1.056	1887.21	.041%	97.005%
47.0	13.317	1.064	1888.274	.041%	97.059%
48.0	13.205	1.072	1889.346	.041%	97.114%
49.0	13.106	1.080	1890.427	.042%	97.170%
50.0	13.015	1.089	1891.516	.042%	97.226%
51.0	12.938	1.098	1892.614	.042%	97.282%
52.0	12.888	1.108	1893.722	.043%	97.339%
53.0	12.839	1.119	1894.841	.043%	97.397%
54.0	12.769	1.129	1895.97	.043%	97.455%
55.0	12.727	1.138	1897.108	.044%	97.513%
56.0	12.677	1.148	1898.256	.044%	97.572%
57.0	12.656	1.158	1899.414	.045%	97.632%
58.0	12.621	1.169	1900.583	.045%	97.692%
59.0	12.607	1.179	1901.762	.045%	97.753%
60.0	12.593	1.191	1902.953	.046%	97.814%
61.0	12.614	1.203	1904.156	.046%	97.876%
62.0	12.698	1.220	1905.376	.047%	97.938%
63.0	12.874	1.244	1906.619	.048%	98.002%
64.0	13.177	1.278	1907.898	.049%	98.068%
65.0	13.591	1.325	1909.222	.051%	98.136%
66.0	14.126	1.383	1910.605	.053%	98.207%
67.0	14.829	1.456	1912.061	.056%	98.282%
68.0	15.588	1.541	1913.602	.059%	98.361%
69.0	16.502	1.637	1915.239	.063%	98.445%
70.0	17.367	1.739	1916.979	.067%	98.535%
71.0	18.218	1.839	1918.818	.071%	98.629%
72.0	18.893	1.930	1920.747	.074%	98.729%
73.0	19.238	1.994	1922.741	.077%	98.831%
74.0	19.399	2.031	1924.773	.078%	98.935%
75.0	19.273	2.043	1926.816	.079%	99.040%

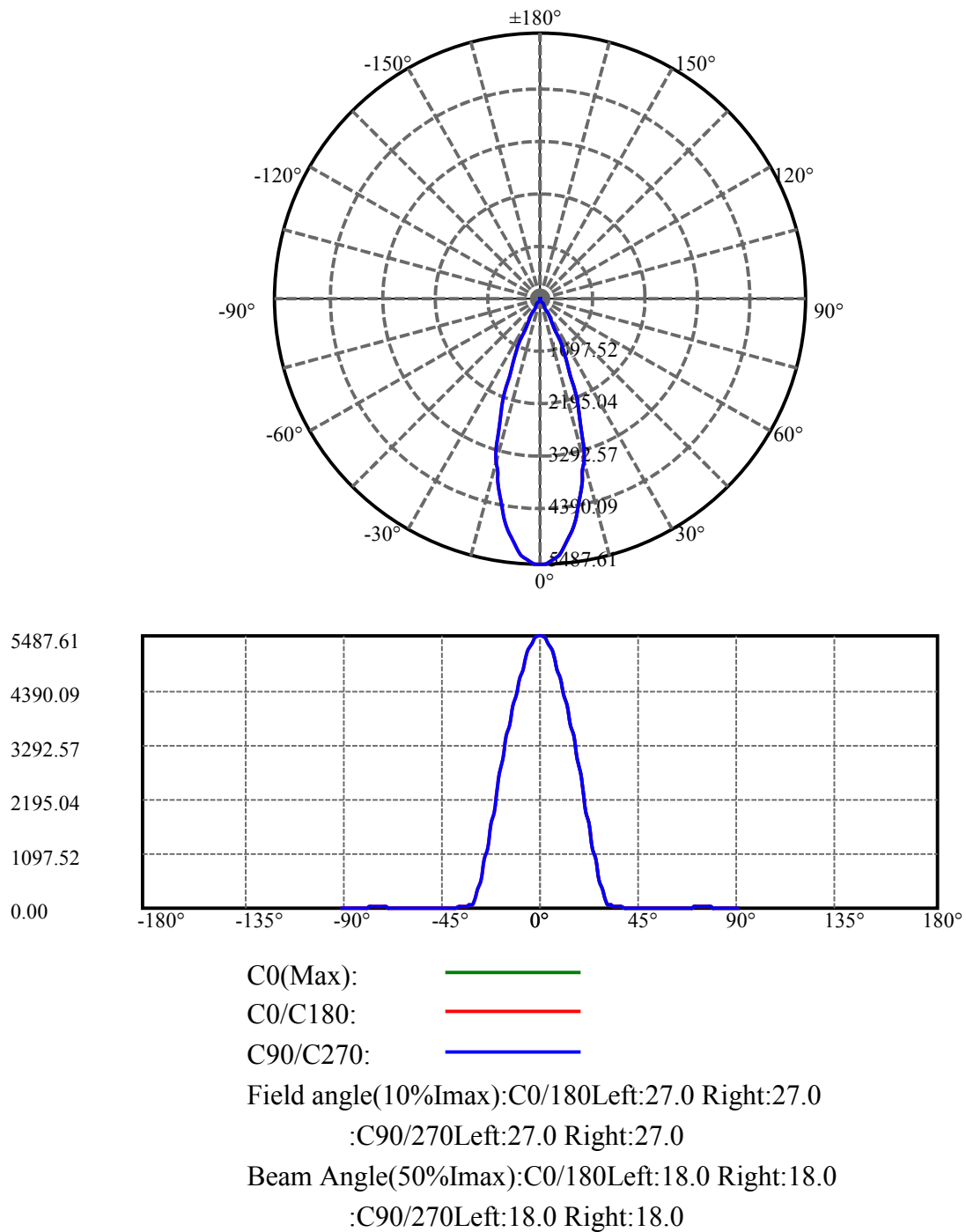
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	18.717	2.017	1928.833	.078%	99.144%
77.0	17.599	1.936	1930.769	.075%	99.244%
78.0	15.715	1.783	1932.552	.069%	99.335%
79.0	13.845	1.588	1934.14	.061%	99.417%
80.0	12.101	1.399	1935.539	.054%	99.489%
81.0	10.765	1.237	1936.776	.048%	99.552%
82.0	9.759	1.113	1937.889	.043%	99.610%
83.0	9.330	1.038	1938.926	.040%	99.663%
84.0	9.056	1.002	1939.928	.039%	99.714%
85.0	8.895	0.980	1940.908	.038%	99.765%
86.0	8.782	0.966	1941.874	.037%	99.814%
87.0	8.381	0.939	1942.813	.036%	99.863%
88.0	8.191	0.908	1943.721	.035%	99.909%
89.0	8.002	0.888	1944.609	.034%	99.955%
90.0	7.966	0.875	1945.484	.034%	100.000%

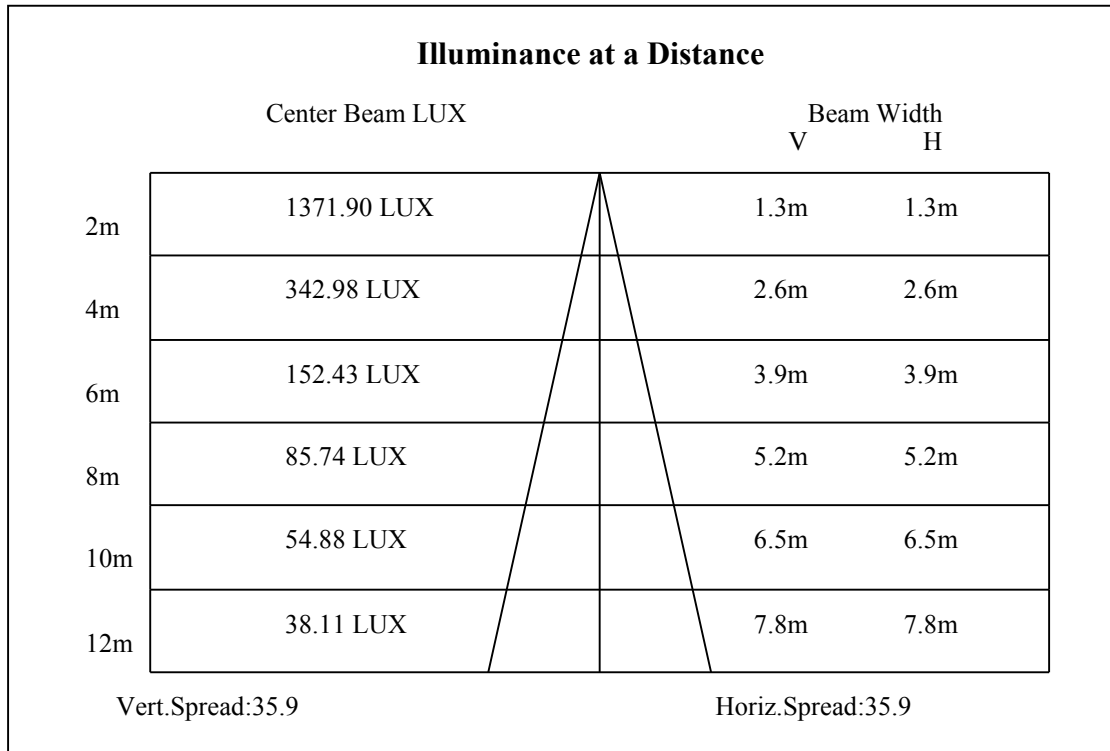
ZONAL LUMEN SUMMARY

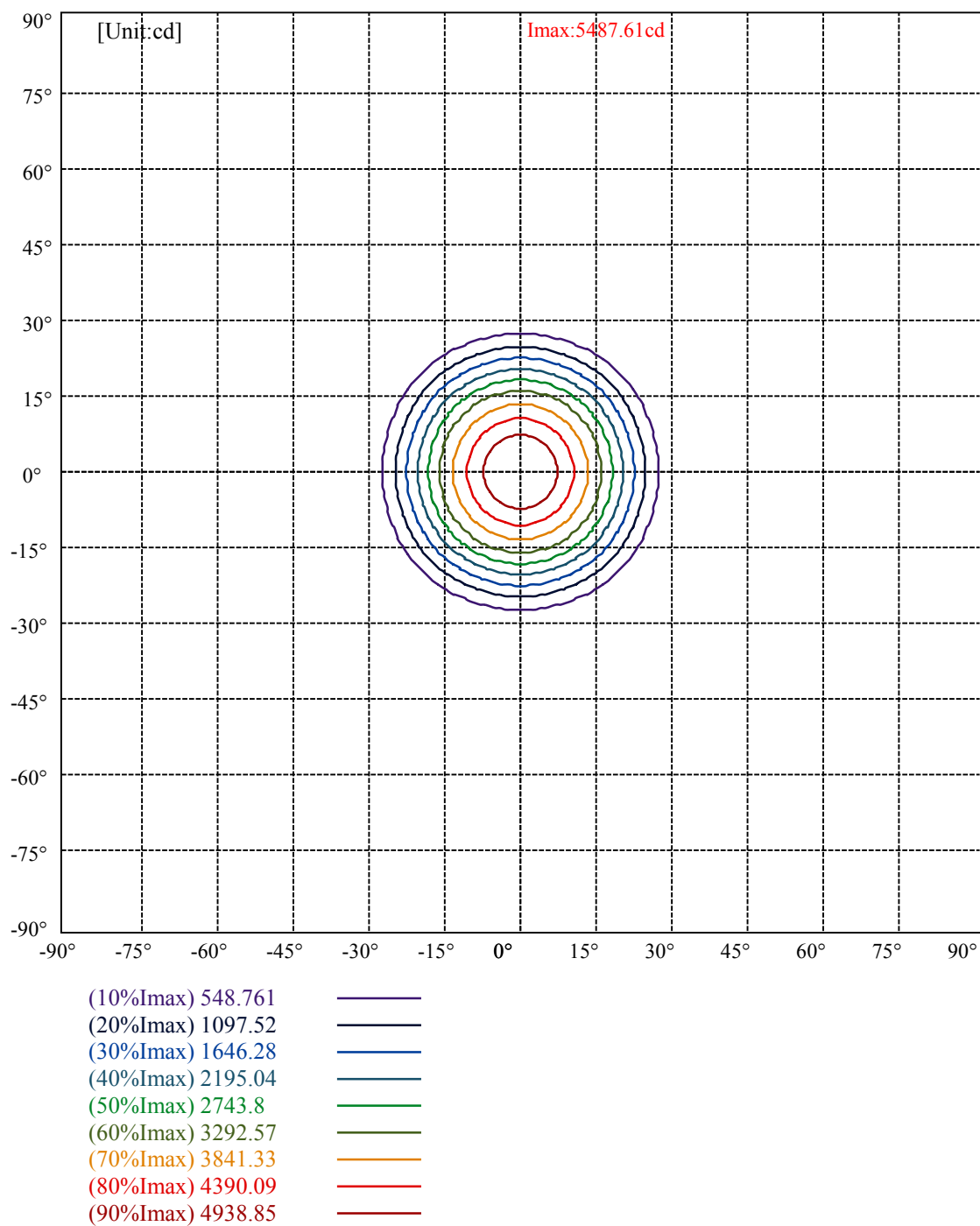
Zone	Lumens	%Lamp	%Fixt
0-30	1858.76	71.60%	95.54%
0-40	1880.88	72.45%	96.68%
0-60	1902.95	73.30%	97.81%
0-90	1944.61	74.91%	99.95%
0-120	1944.61	74.91%	99.95%
0-180	1945.48	74.94%	100.00%
60-90	42.85	1.65%	2.20%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.89	1556.39	59.95%	80.00%

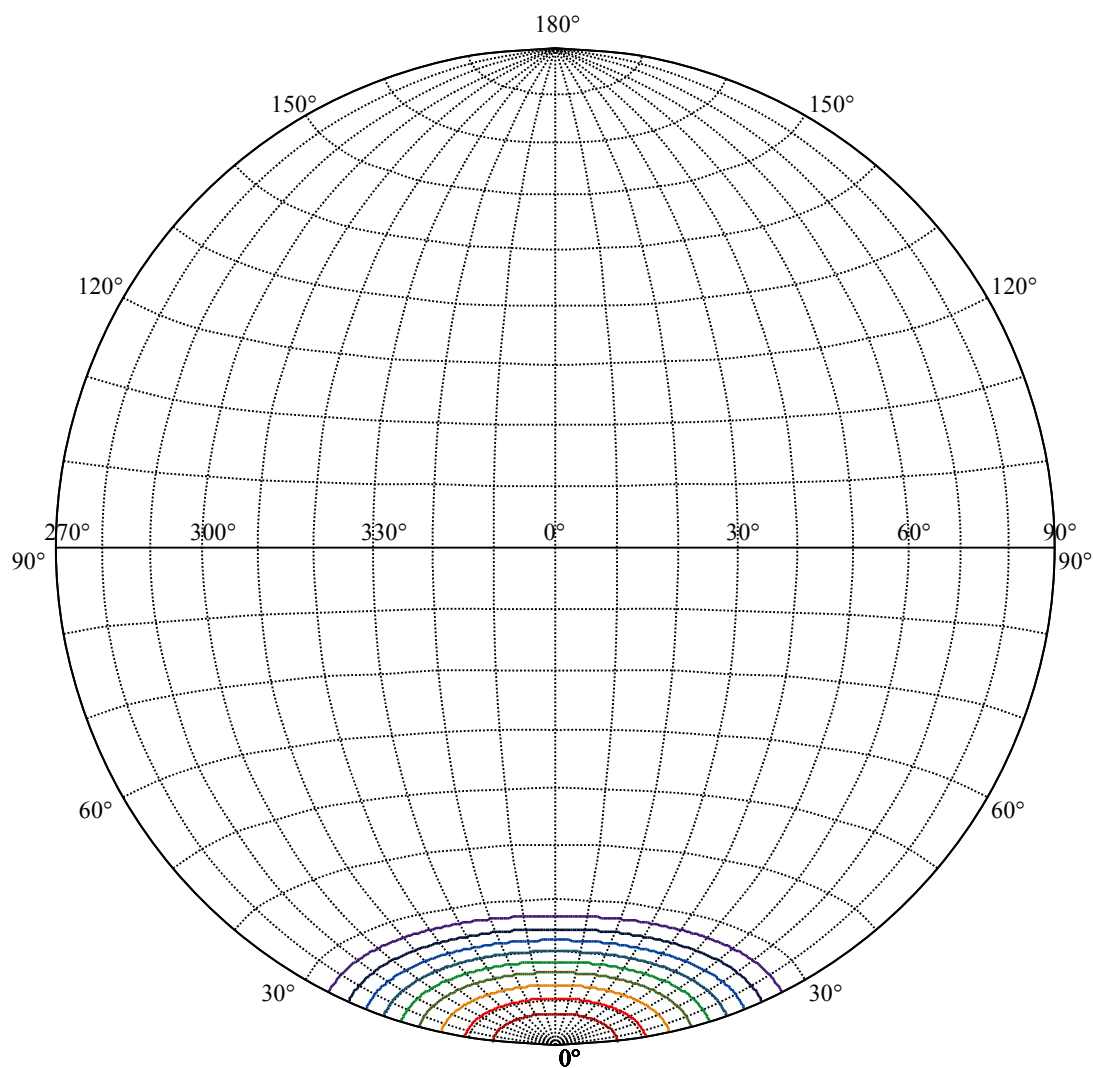
ZONAL LUMEN SUMMARY

0-10	474.14
10-20	936.30
20-30	448.32
30-40	22.12
40-50	10.63
50-60	11.44
60-70	14.03
70-80	18.56
80-90	9.07
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









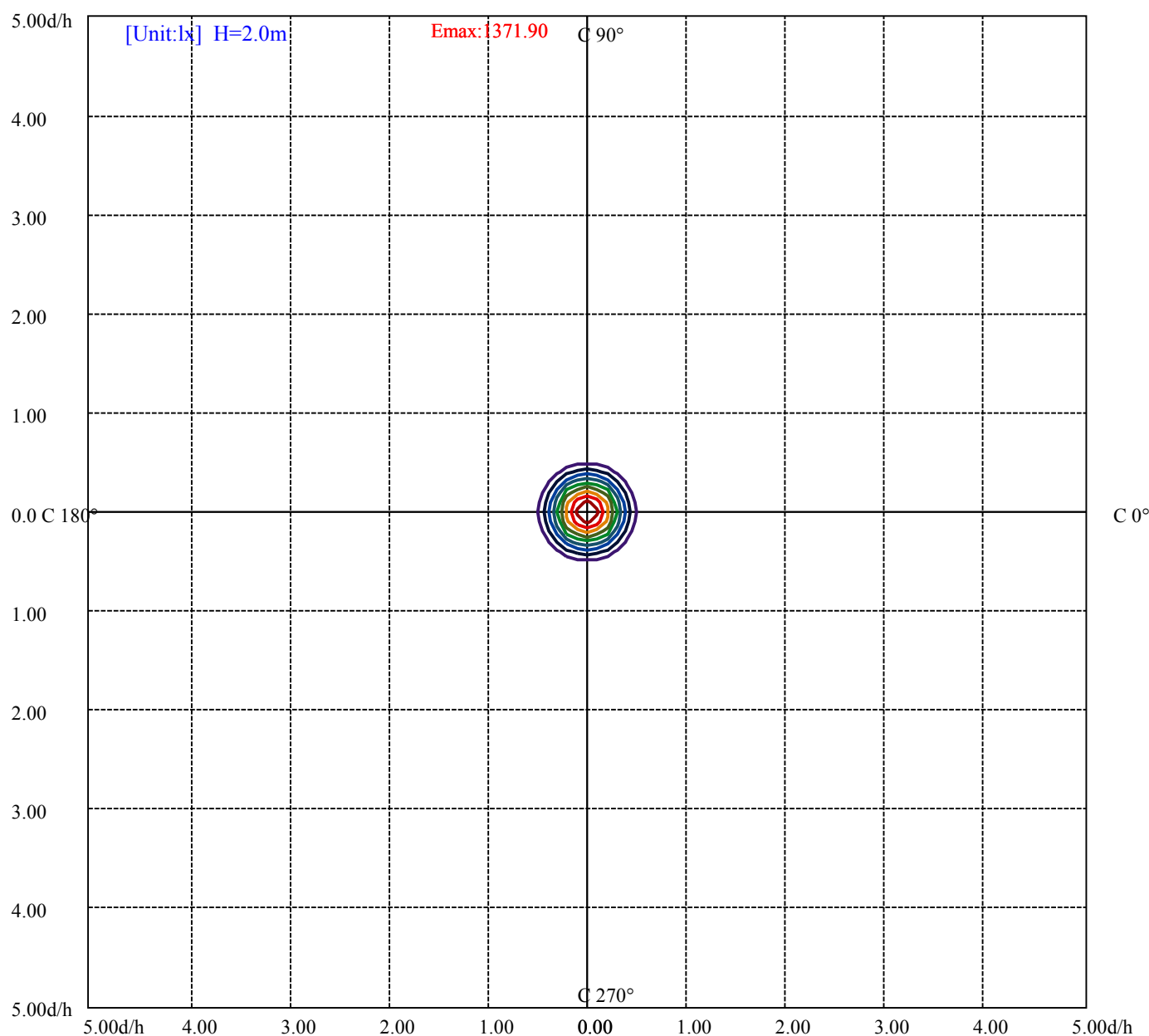
House

[Unit:cd]

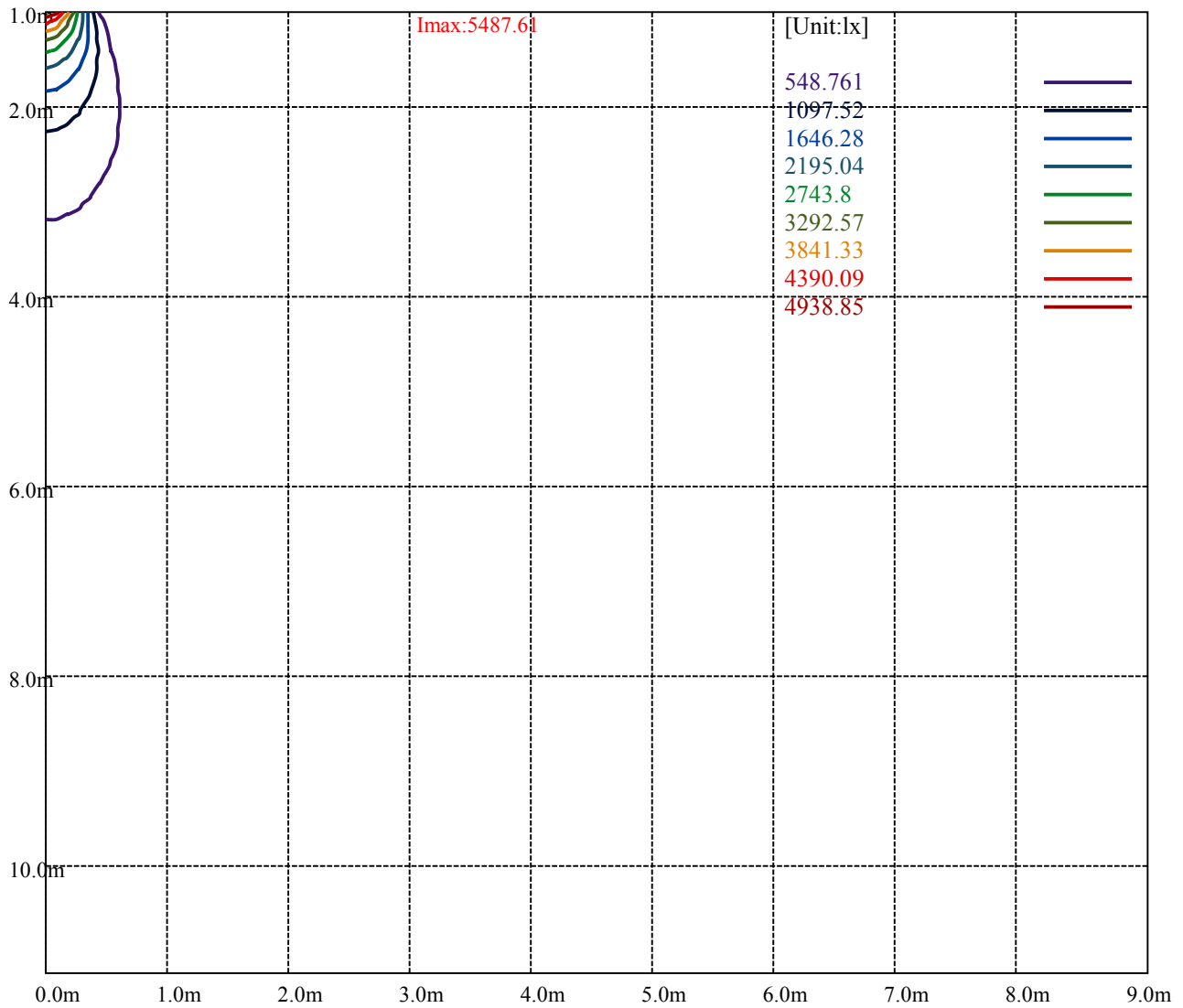
Road

Imax:5487.61

(10%Imax)	548.761	—
(20%Imax)	1097.52	—
(30%Imax)	1646.28	—
(40%Imax)	2195.04	—
(50%Imax)	2743.8	—
(60%Imax)	3292.57	—
(70%Imax)	3841.33	—
(80%Imax)	4390.09	—
(90%Imax)	4938.85	—



(10%Emax)	137.1902	—
(20%Emax)	274.38	—
(30%Emax)	411.57	—
(40%Emax)	548.76	—
(50%Emax)	685.95	—
(60%Emax)	823.14	—
(70%Emax)	960.3325	—
(80%Emax)	1097.522	—
(90%Emax)	1234.713	—



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

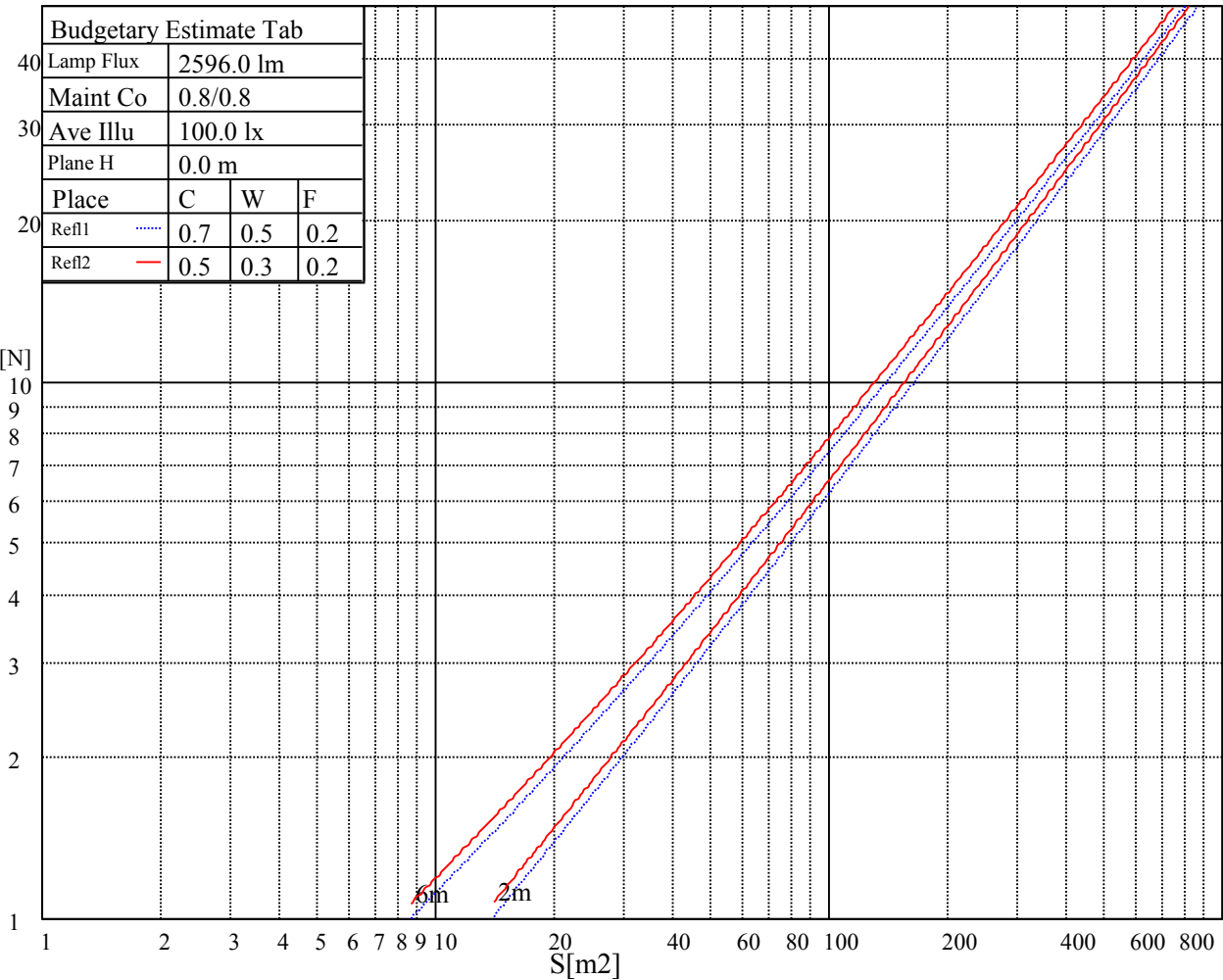
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

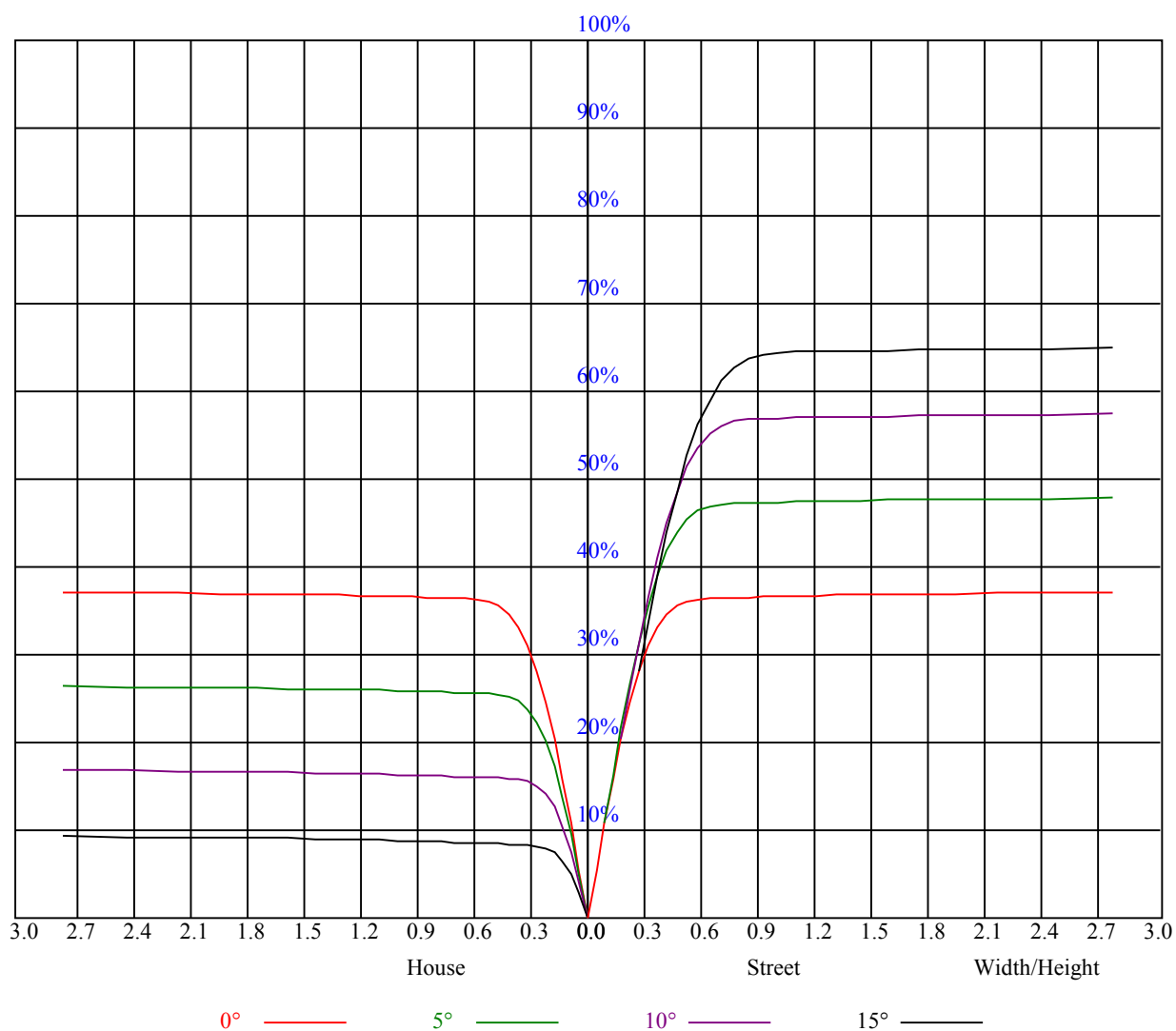
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.89	0.89	0.89	0.87	0.87	0.87	0.83	0.83	0.83	0.80	0.80	0.80	0.76	0.76	0.76	0.75
1	0.84	0.82	0.81	0.82	0.81	0.79	0.79	0.78	0.77	0.76	0.76	0.75	0.74	0.73	0.73	0.71
2	0.79	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.72	0.74	0.72	0.71	0.72	0.70	0.69	0.68
3	0.76	0.73	0.70	0.75	0.72	0.70	0.73	0.70	0.68	0.71	0.69	0.67	0.69	0.68	0.66	0.65
4	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.68	0.66	0.64	0.67	0.65	0.64	0.63
5	0.69	0.66	0.63	0.69	0.65	0.63	0.67	0.65	0.62	0.66	0.64	0.62	0.65	0.63	0.61	0.60
6	0.66	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.64	0.61	0.60	0.63	0.61	0.59	0.58
7	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
8	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
9	0.60	0.56	0.54	0.59	0.56	0.54	0.59	0.56	0.54	0.58	0.55	0.53	0.57	0.55	0.53	0.53
10	0.58	0.54	0.52	0.57	0.54	0.52	0.57	0.54	0.52	0.56	0.54	0.52	0.56	0.53	0.52	0.51



Intensity data(cd)

C/ γ (°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	5482.69	5461.31	5405.06	5339.81	5258.25	5131.13	5009.63	4874.63	4708.69
45.0	5500.13	5482.13	5443.31	5367.94	5289.75	5196.38	5052.94	4914.56	4765.50
90.0	5489.44	5474.25	5433.19	5370.19	5295.94	5192.44	5064.19	4927.50	4757.06
135.0	5478.19	5487.19	5471.44	5436.00	5383.13	5305.50	5203.69	5092.31	4944.94
180.0	5482.69	5485.50	5467.50	5425.31	5369.63	5286.94	5193.00	5065.88	4916.81
225.0	5500.13	5493.94	5474.81	5429.25	5349.94	5277.94	5180.63	5023.13	4906.69
270.0	5489.44	5484.94	5452.31	5405.63	5340.38	5258.25	5134.50	5015.81	4883.06
315.0	5478.19	5450.06	5394.94	5320.69	5237.44	5121.56	4984.31	4847.63	4677.75
360.0	5482.69	5461.31	5405.06	5339.81	5258.25	5131.13	5009.63	4874.63	4708.69
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4530.38	4360.50	4161.94	3979.69	3768.19	3551.63	3346.88	3092.63	2821.50
45.0	4568.63	4398.19	4216.50	4007.81	3795.19	3602.25	3374.44	3126.38	2890.13
90.0	4594.50	4399.31	4197.38	4015.13	3804.75	3589.88	3390.75	3174.19	2881.13
135.0	4781.81	4622.06	4426.88	4245.75	4036.50	3823.31	3630.38	3437.44	3173.63
180.0	4767.75	4586.06	4393.13	4214.81	4031.44	3795.75	3603.94	3407.63	3165.19
225.0	4760.44	4539.38	4388.63	4207.50	3997.69	3785.06	3593.81	3366.56	3144.38
270.0	4698.56	4537.69	4367.25	4165.88	3958.31	3767.63	3552.19	3348.00	3098.25
315.0	4515.19	4320.00	4115.25	3929.63	3715.31	3500.44	3296.25	3070.69	2773.13
360.0	4530.38	4360.50	4161.94	3979.69	3768.19	3551.63	3346.88	3092.63	2821.50
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2577.38	2334.94	2036.81	1802.25	1568.81	1306.69	1052.44	834.75	609.19
45.0	2608.31	2358.00	2086.31	1808.44	1588.50	1314.56	1067.63	858.38	664.31
90.0	2634.19	2383.31	2107.69	1839.38	1611.00	1262.81	1092.94	880.71	657.84
135.0	2939.06	2695.50	2392.88	2136.94	1909.13	1630.69	1377.56	1145.81	912.38
180.0	2900.81	2656.69	2379.38	2107.69	1872.56	1609.88	1373.06	1110.88	865.18
225.0	2881.13	2612.81	2368.69	2097.56	1830.38	1593.56	1273.50	1094.06	853.54
270.0	2834.44	2596.50	2326.50	2057.63	1825.88	1624.50	1301.63	1068.75	874.69
315.0	2532.38	2293.88	2026.69	1765.69	1530.56	1116.73	1004.01	789.02	548.49
360.0	2577.38	2334.94	2036.81	1802.25	1568.81	1306.69	1052.44	834.75	609.19
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	414.00	288.56	162.17	92.70	64.63	48.66	36.34	28.24	23.57
45.0	447.19	302.63	286.31	99.51	67.56	50.79	37.46	29.64	23.74
90.0	479.93	310.16	176.01	101.48	66.88	45.17	34.03	26.55	20.87
135.0	681.19	480.94	317.25	225.45	93.15	59.85	41.06	30.60	23.40
180.0	664.54	484.76	291.88	171.96	95.91	56.70	40.78	30.77	24.81
225.0	653.91	471.43	284.23	169.59	98.78	60.86	43.71	32.57	25.03
270.0	617.06	415.13	287.44	149.06	86.79	60.92	42.58	31.95	24.53
315.0	398.53	240.86	125.72	85.28	60.86	40.05	31.50	25.03	19.80
360.0	414.00	288.56	162.17	92.70	64.63	48.66	36.34	28.24	23.57
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	20.31	18.39	17.04	16.09	15.47	15.02	14.57	14.29	14.12
45.0	20.19	18.23	16.76	15.81	15.19	14.68	14.23	13.95	13.78
90.0	18.17	16.54	15.30	14.40	13.89	13.39	13.11	12.77	12.54
135.0	19.35	17.27	16.03	14.96	14.40	13.89	13.44	13.16	12.94
180.0	20.76	19.01	17.94	17.10	16.48	16.03	15.58	15.24	14.96
225.0	20.93	19.01	17.72	16.99	16.43	15.92	15.58	15.19	14.85
270.0	20.31	18.17	16.88	15.92	15.41	14.96	14.51	14.23	13.95
315.0	18.00	16.59	15.53	14.85	14.34	13.89	13.61	13.33	13.16
360.0	20.31	18.39	17.04	16.09	15.47	15.02	14.57	14.29	14.12

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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	13.84	13.61	13.50	13.28	13.05	12.99	12.83	12.77	12.71		
45.0	13.61	13.50	13.44	13.44	13.39	13.39	13.39	13.39	13.39		
90.0	12.38	12.21	12.09	11.98	11.93	11.76	11.70	11.59	11.59		
135.0	12.77	12.66	12.54	12.49	12.38	12.32	12.21	12.15	12.09		
180.0	14.68	14.51	14.34	14.18	14.06	13.89	13.73	13.67	13.56		
225.0	14.68	14.63	14.63	14.57	14.57	14.51	14.57	14.63	14.63		
270.0	13.67	13.50	13.33	13.16	13.05	12.94	12.83	12.77	12.66		
315.0	12.99	12.83	12.66	12.54	12.43	12.32	12.26	12.15	12.09		
360.0	13.84	13.61	13.50	13.28	13.05	12.99	12.83	12.77	12.71		
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	12.66	12.66	12.66	12.71	12.83	12.88	12.99	13.05	13.22		
45.0	13.39	13.33	13.22	13.16	13.05	12.99	12.94	12.99	13.22		
90.0	11.53	11.48	11.42	11.42	11.36	11.36	11.31	11.31	11.19		
135.0	11.98	11.93	11.87	11.81	11.76	11.70	11.64	11.53	11.53		
180.0	13.50	13.44	13.39	13.39	13.39	13.39	13.33	13.39	13.44		
225.0	14.57	14.57	14.57	14.51	14.51	14.57	14.68	14.91	15.36		
270.0	12.54	12.49	12.43	12.43	12.38	12.32	12.26	12.21	12.15		
315.0	11.98	11.93	11.87	11.81	11.70	11.64	11.59	11.53	11.48		
360.0	12.66	12.66	12.66	12.71	12.83	12.88	12.99	13.05	13.22		
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	13.39	13.61	13.84	14.57	15.86	17.33	19.24	20.98	22.89		
45.0	13.73	15.08	16.59	18.39	21.09	23.23	25.43	27.68	29.53		
90.0	11.14	11.08	10.97	10.91	10.86	10.86	10.86	10.86	10.91		
135.0	11.42	11.42	11.36	11.36	11.36	11.36	11.42	11.42	11.48		
180.0	13.61	13.73	14.01	14.34	14.63	15.08	15.98	16.88	17.78		
225.0	16.14	17.10	18.68	20.14	21.71	23.68	25.93	27.79	29.64		
270.0	12.09	11.98	11.93	11.87	11.76	11.76	11.70	11.70	11.64		
315.0	11.48	11.42	11.36	11.42	11.36	11.42	11.48	11.64	11.87		
360.0	13.39	13.61	13.84	14.57	15.86	17.33	19.24	20.98	22.89		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	24.19	24.92	25.31	25.26	24.19	21.15	15.81	12.60	10.63		
45.0	30.66	30.66	29.93	27.96	24.81	21.43	16.65	12.26	10.13		
90.0	10.97	11.08	11.14	11.19	11.14	10.97	10.74	10.41	10.07		
135.0	11.59	11.70	11.81	11.98	12.09	12.09	12.04	11.87	11.42		
180.0	18.90	19.58	20.19	20.64	20.93	20.98	20.36	19.13	16.88		
225.0	31.11	31.95	32.68	33.02	32.68	30.71	27.62	23.40	17.55		
270.0	11.64	11.64	11.64	11.64	11.53	11.42	11.19	10.97	10.74		
315.0	12.09	12.38	12.49	12.49	12.38	12.04	11.31	10.13	9.39		
360.0	24.19	24.92	25.31	25.26	24.19	21.15	15.81	12.60	10.63		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	10.07	9.84	9.73	9.51	9.34	9.45	8.33	8.04	7.93		
45.0	9.62	9.17	8.94	8.78	8.72	8.55	8.33	7.99	7.93		
90.0	9.79	9.34	8.94	8.72	8.44	8.33	8.21	8.04	8.04		
135.0	10.52	9.68	8.94	8.66	8.49	8.38	8.21	8.16	8.04		
180.0	13.33	10.69	9.84	9.51	9.28	9.00	8.55	8.38	7.99		
225.0	13.28	10.41	9.68	9.11	9.06	8.94	8.72	8.49	8.04		
270.0	10.41	10.01	9.56	9.17	8.83	8.55	8.49	8.33	8.04		
315.0	9.11	8.94	9.00	9.00	9.00	9.06	8.21	8.10	7.99		
360.0	10.07	9.84	9.73	9.51	9.34	9.45	8.33	8.04	7.93		

Intensity data(cd)

Appendix Page: 18 Total:18

C/ γ (°)	90.0
0.0	7.93
45.0	7.93
90.0	7.99
135.0	7.99
180.0	7.99
225.0	7.93
270.0	7.99
315.0	7.99
360.0	7.93