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Nata

LumCAT: 2-2166-M
Luminaire: BJB 47.360.5080
Report No: 200326-B009
Test No: 200326-C009
LampCAT: NICHIA NFCWJ120B-V3
Lamp flux(lm): 2623.0
Number of Lamps: 1
Length(mm): 0
Phm Type: C

Voltage(V): 34.2100
Current(A): 0.6020
Power (W): 20.5900
PF: 0.0000
Ballast type: DC
Width(mm): 0
Height(mm): 0

Photometric Results

Lumens(lm): 1964.58
Efficiency(%): 74.90%
Lumens(lm)/Power(W): 95.41
Central intensity(cd): 5577.891
Maximum intensity(cd): 5577.891
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=35.9
[C90/270]Total=35.9
Field angle(10%Imax): [C0/180]Total=53.8
[C90/270]Total=53.8
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(%): 74.90%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.706%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5577.891	0.000	0	.000%	.000%
1.0	5567.766	5.333	5.333	.203%	.271%
2.0	5533.945	15.934	21.267	.607%	1.083%
3.0	5476.008	26.332	47.599	1.004%	2.423%
4.0	5401.477	36.410	84.01	1.388%	4.276%
5.0	5303.250	46.051	130.061	1.756%	6.620%
6.0	5188.570	55.137	185.198	2.102%	9.427%
7.0	5046.188	63.527	248.725	2.422%	12.660%
8.0	4896.211	71.156	319.881	2.713%	16.282%
9.0	4718.180	77.919	397.801	2.971%	20.249%
10.0	4531.289	83.704	481.505	3.191%	24.509%
11.0	4344.820	88.691	570.195	3.381%	29.024%
12.0	4152.516	92.888	663.083	3.541%	33.752%
13.0	3937.359	96.006	759.09	3.660%	38.639%
14.0	3724.453	98.071	857.16	3.739%	43.631%
15.0	3521.953	99.482	956.642	3.793%	48.694%
16.0	3277.336	99.629	1056.271	3.798%	53.766%
17.0	3034.195	98.287	1154.558	3.747%	58.769%
18.0	2774.672	95.776	1250.334	3.651%	63.644%
19.0	2507.555	91.900	1342.234	3.504%	68.322%
20.0	2235.164	86.805	1429.039	3.309%	72.740%
21.0	1972.266	80.791	1509.83	3.080%	76.853%
22.0	1719.984	74.197	1584.027	2.829%	80.629%
23.0	1432.027	66.138	1650.165	2.521%	83.996%
24.0	1170.731	56.906	1707.071	2.169%	86.892%
25.0	956.616	48.371	1755.442	1.844%	89.355%
26.0	739.118	40.028	1795.47	1.526%	91.392%
27.0	534.621	31.162	1826.632	1.188%	92.978%
28.0	352.322	22.456	1849.088	.856%	94.121%
29.0	240.040	15.498	1864.586	.591%	94.910%
30.0	134.648	10.117	1874.702	.386%	95.425%
31.0	73.420	5.790	1880.492	.221%	95.720%
32.0	51.757	3.586	1884.079	.137%	95.902%
33.0	38.334	2.654	1886.733	.101%	96.037%
34.0	29.222	2.044	1888.777	.078%	96.141%
35.0	23.941	1.651	1890.428	.063%	96.226%
36.0	20.482	1.414	1891.843	.054%	96.298%
37.0	18.520	1.272	1893.115	.048%	96.362%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	17.248	1.194	1894.309	.046%	96.423%
39.0	16.327	1.146	1895.455	.044%	96.481%
40.0	15.715	1.117	1896.572	.043%	96.538%
41.0	15.244	1.102	1897.674	.042%	96.594%
42.0	14.850	1.093	1898.768	.042%	96.650%
43.0	14.527	1.088	1899.856	.041%	96.705%
44.0	14.302	1.088	1900.944	.041%	96.761%
45.0	14.147	1.093	1902.037	.042%	96.816%
46.0	13.971	1.100	1903.137	.042%	96.872%
47.0	13.845	1.106	1904.243	.042%	96.929%
48.0	13.732	1.115	1905.358	.043%	96.985%
49.0	13.620	1.123	1906.481	.043%	97.043%
50.0	13.535	1.132	1907.613	.043%	97.100%
51.0	13.451	1.142	1908.755	.044%	97.158%
52.0	13.402	1.152	1909.907	.044%	97.217%
53.0	13.338	1.163	1911.071	.044%	97.276%
54.0	13.289	1.174	1912.244	.045%	97.336%
55.0	13.240	1.184	1913.428	.045%	97.396%
56.0	13.219	1.196	1914.624	.046%	97.457%
57.0	13.170	1.207	1915.831	.046%	97.519%
58.0	13.141	1.217	1917.047	.046%	97.580%
59.0	13.113	1.227	1918.275	.047%	97.643%
60.0	13.106	1.239	1919.513	.047%	97.706%
61.0	13.155	1.253	1920.767	.048%	97.770%
62.0	13.324	1.276	1922.043	.049%	97.835%
63.0	13.528	1.306	1923.349	.050%	97.901%
64.0	13.887	1.345	1924.694	.051%	97.970%
65.0	14.379	1.399	1926.093	.053%	98.041%
66.0	14.948	1.463	1927.556	.056%	98.115%
67.0	15.778	1.545	1929.101	.059%	98.194%
68.0	16.720	1.646	1930.747	.063%	98.278%
69.0	17.726	1.757	1932.504	.067%	98.367%
70.0	18.696	1.871	1934.375	.071%	98.462%
71.0	19.603	1.980	1936.355	.075%	98.563%
72.0	20.320	2.076	1938.43	.079%	98.669%
73.0	20.932	2.157	1940.588	.082%	98.779%
74.0	21.192	2.215	1942.802	.084%	98.891%
75.0	21.129	2.236	1945.038	.085%	99.005%

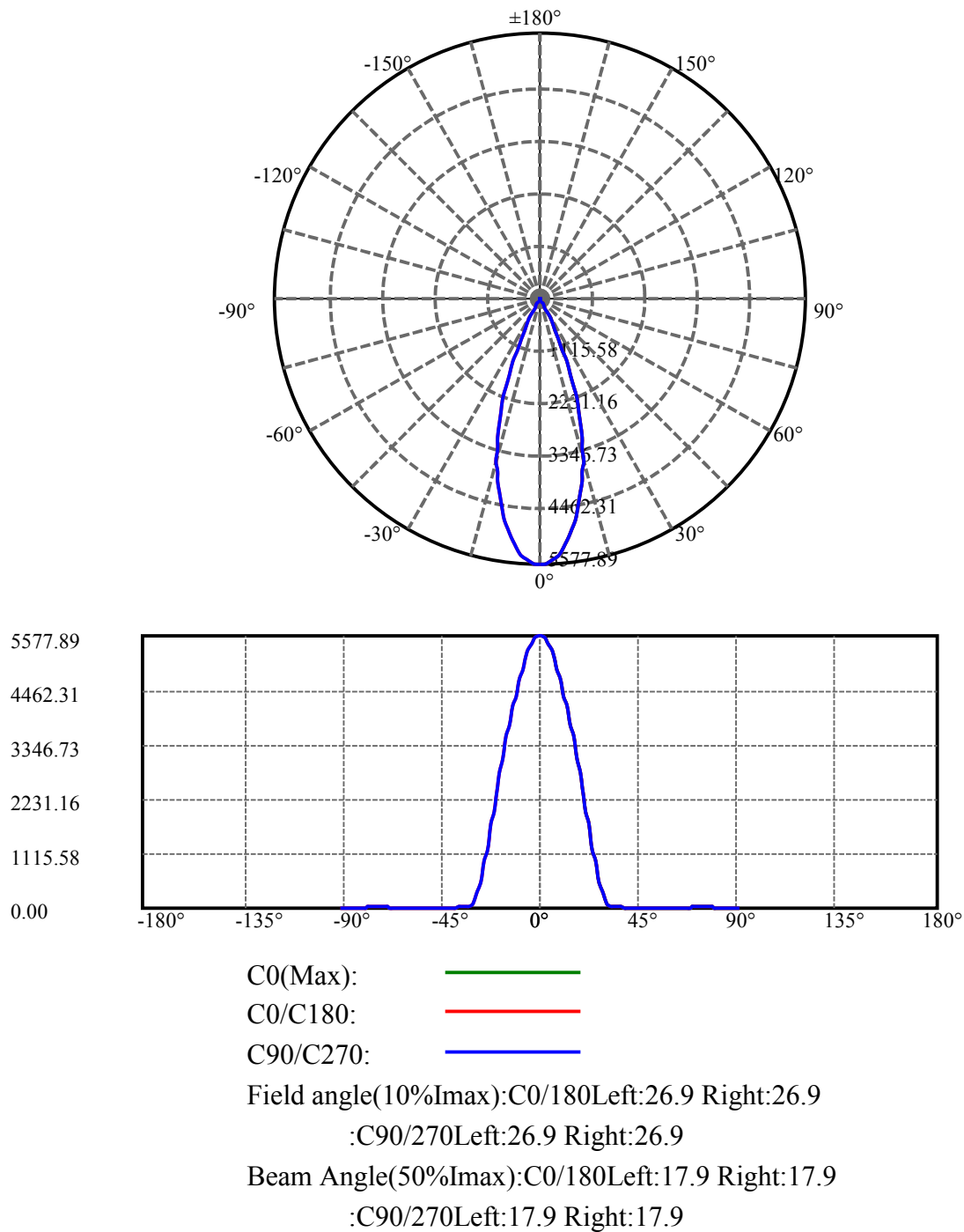
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	20.440	2.207	1947.245	.084%	99.118%
77.0	19.245	2.116	1949.361	.081%	99.225%
78.0	17.395	1.961	1951.322	.075%	99.325%
79.0	14.843	1.732	1953.054	.066%	99.413%
80.0	12.101	1.453	1954.507	.055%	99.487%
81.0	10.357	1.214	1955.721	.046%	99.549%
82.0	9.738	1.090	1956.811	.042%	99.605%
83.0	9.338	1.037	1957.848	.040%	99.657%
84.0	9.084	1.004	1958.852	.038%	99.708%
85.0	8.944	0.984	1959.836	.038%	99.758%
86.0	8.866	0.974	1960.809	.037%	99.808%
87.0	8.866	0.970	1961.78	.037%	99.857%
88.0	8.803	0.968	1962.748	.037%	99.907%
89.0	8.269	0.936	1963.683	.036%	99.954%
90.0	8.100	0.897	1964.581	.034%	100.000%

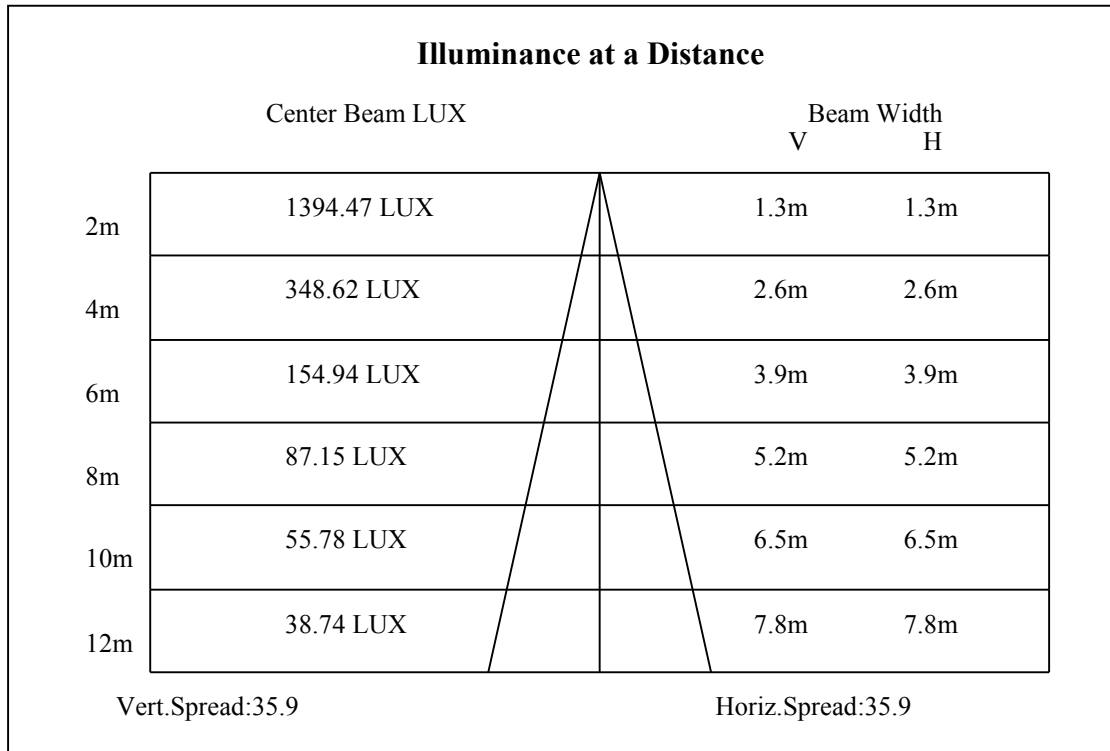
ZONAL LUMEN SUMMARY

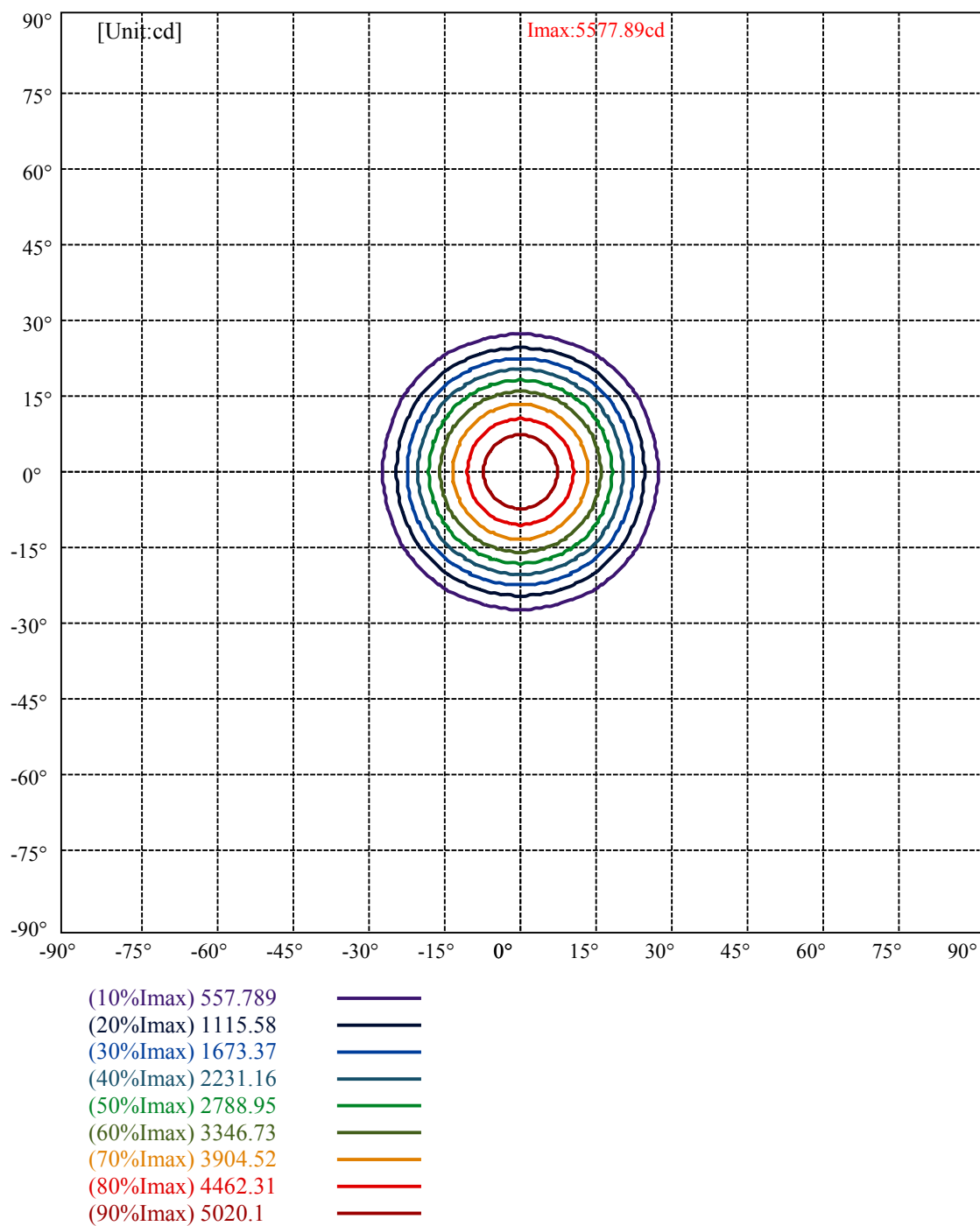
Zone	Lumens	%Lamp	%Fixt
0-30	1874.70	71.47%	95.43%
0-40	1896.57	72.31%	96.54%
0-60	1919.51	73.18%	97.71%
0-90	1963.68	74.86%	99.95%
0-120	1963.68	74.86%	99.95%
0-180	1964.58	74.90%	100.00%
60-90	45.41	1.73%	2.31%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-21.83	1571.67	59.92%	80.00%

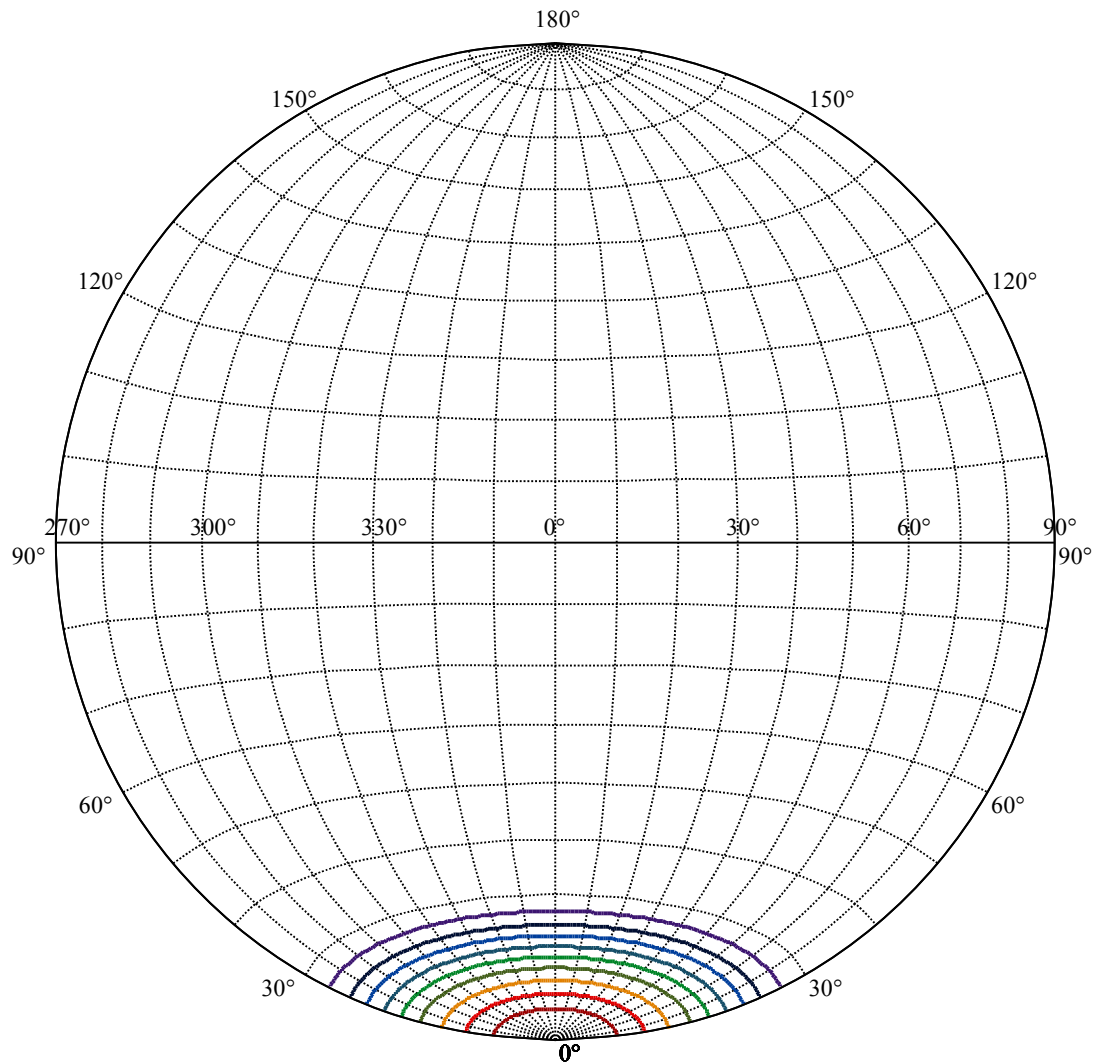
ZONAL LUMEN SUMMARY

0-10	481.50
10-20	947.53
20-30	445.66
30-40	21.87
40-50	11.04
50-60	11.90
60-70	14.86
70-80	20.13
80-90	9.18
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:5577.89

(10%Imax) 557.789

(20%Imax) 1115.58

(30%Imax) 1673.37

(40%Imax) 2231.16

(50%Imax) 2788.95

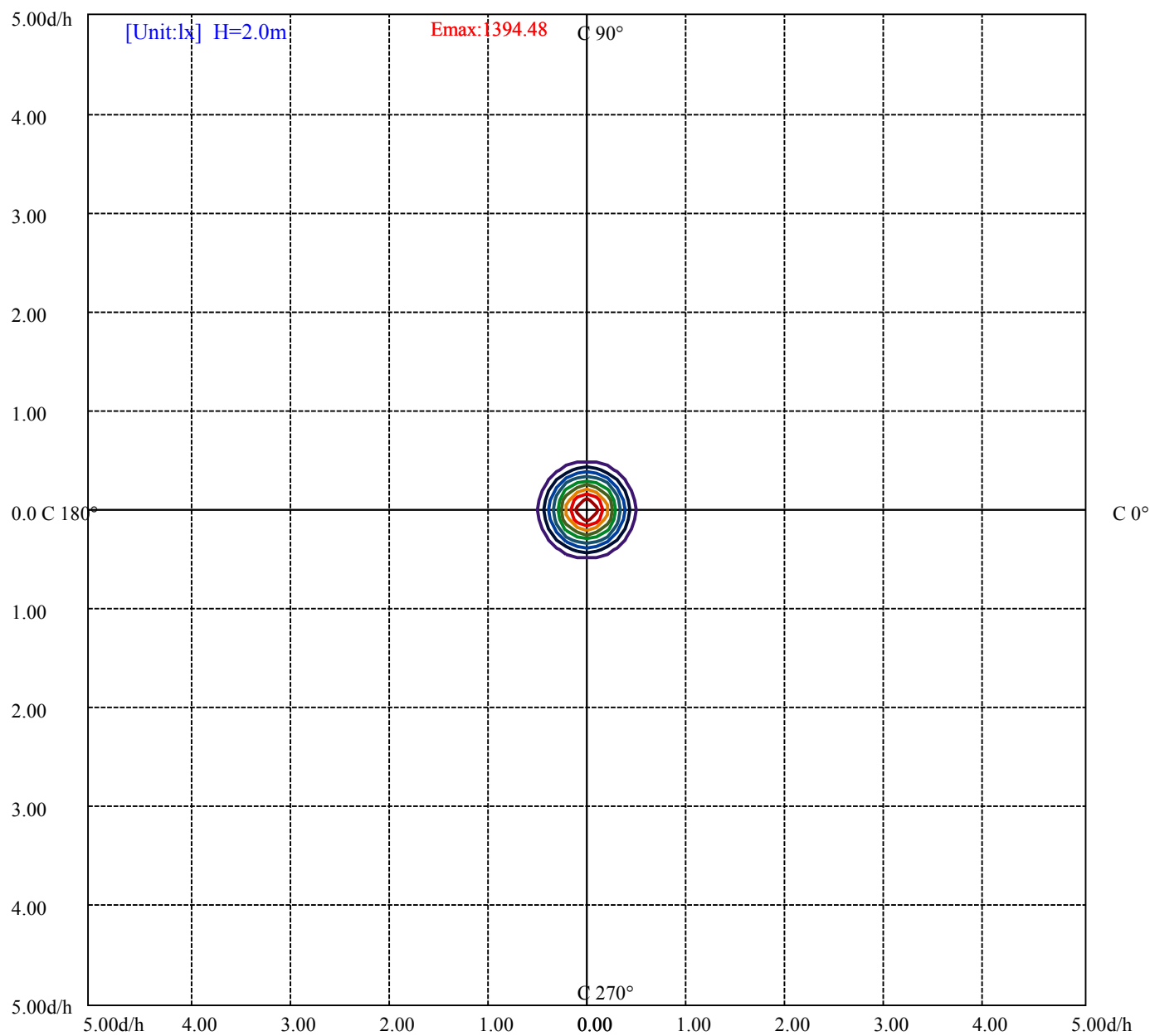
(60%Imax) 3346.73

(70%Imax) 3904.52

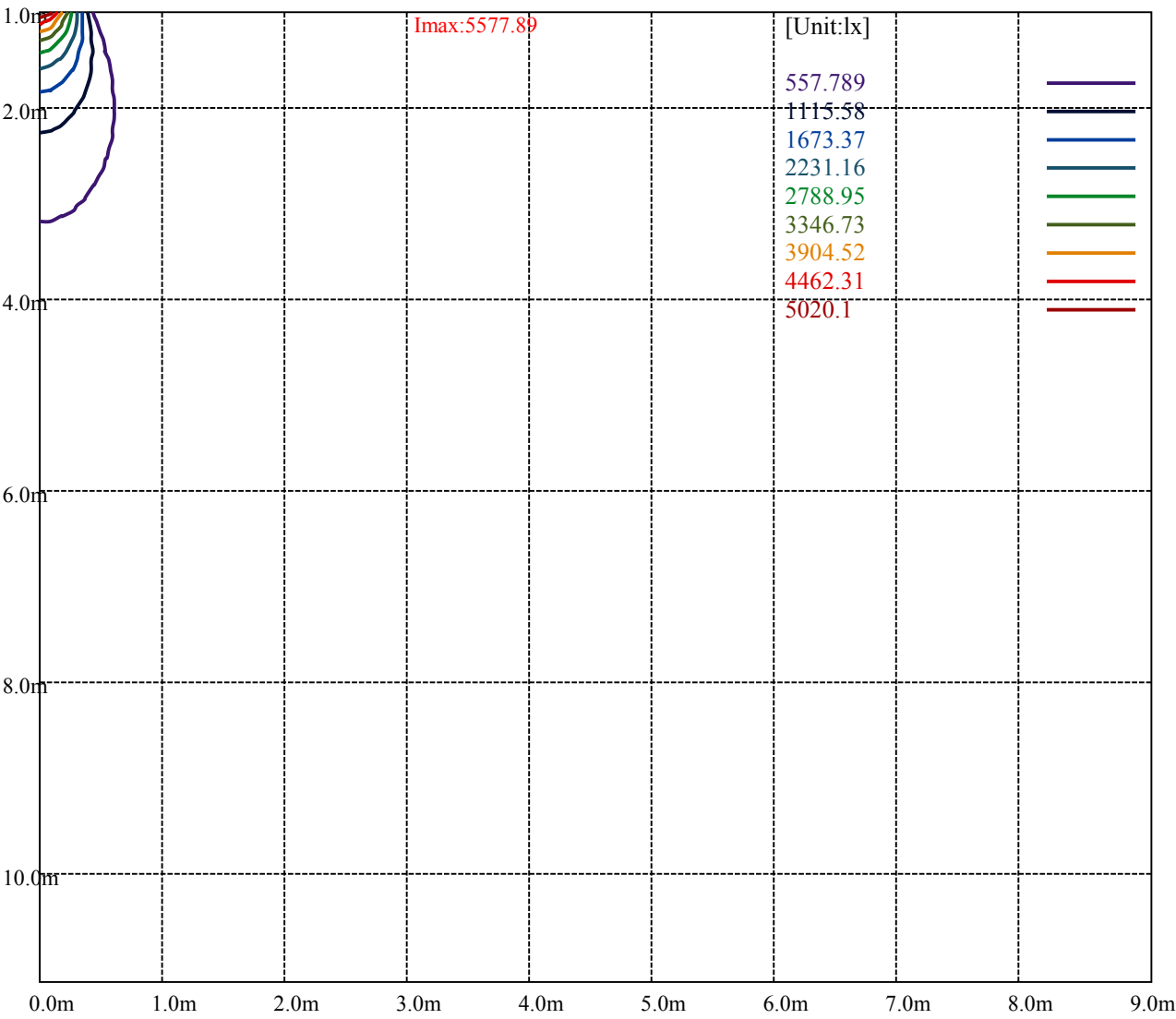
(80%Imax) 4462.31

(90%Imax) 5020.1





(10%E _{max}) 139.4473	—
(20%E _{max}) 278.895	—
(30%E _{max}) 418.3425	—
(40%E _{max}) 557.79	—
(50%E _{max}) 697.235	—
(60%E _{max}) 836.6825	—
(70%E _{max}) 976.13	—
(80%E _{max}) 1115.578	—
(90%E _{max}) 1255.025	—



Luminance Table

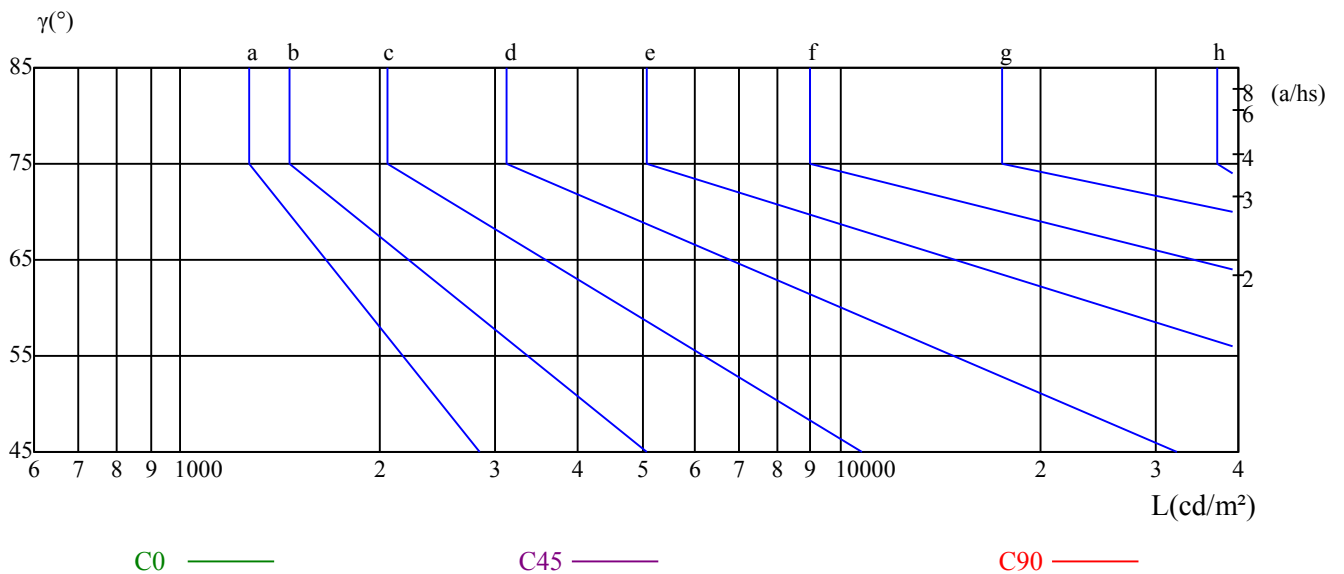
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

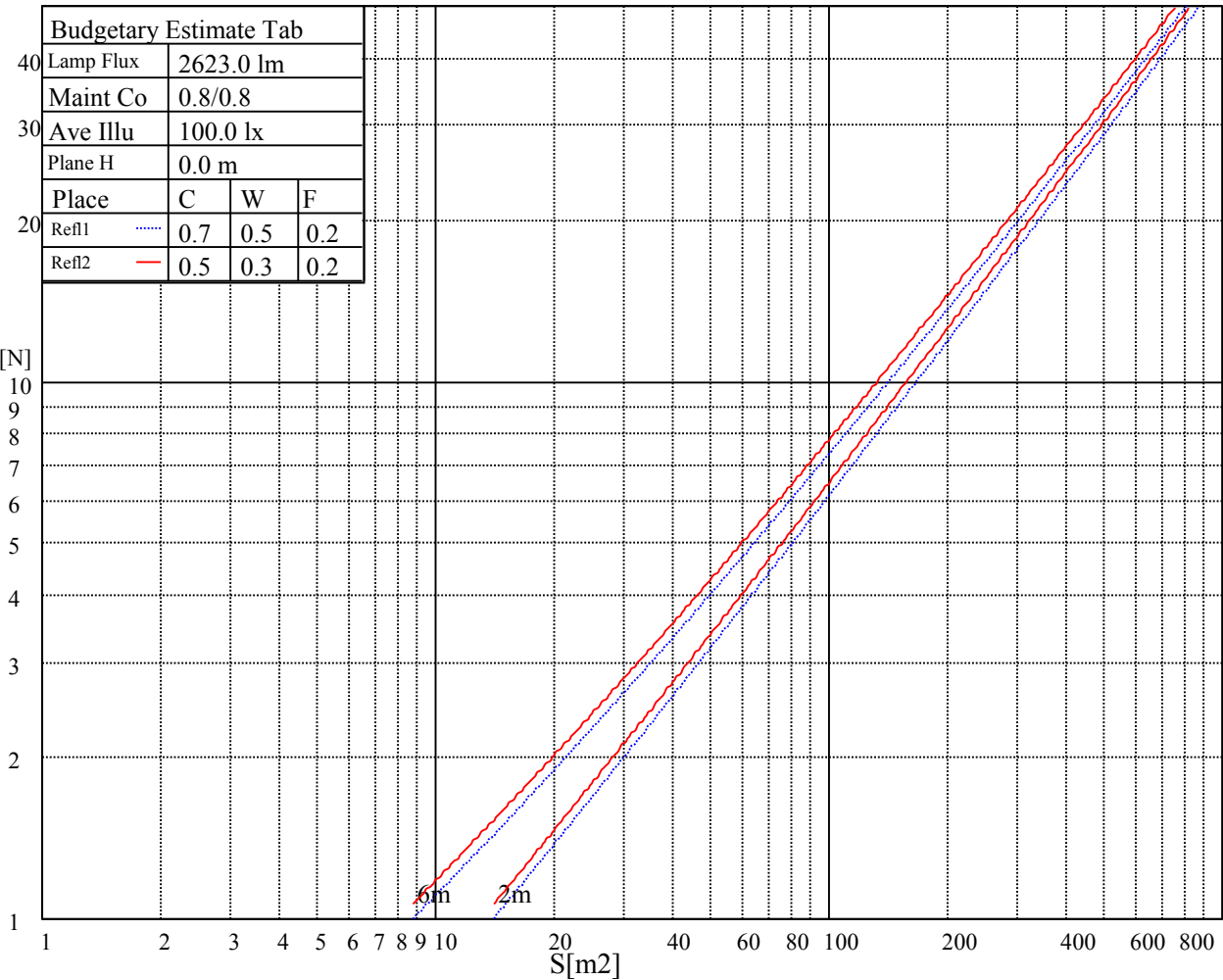
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

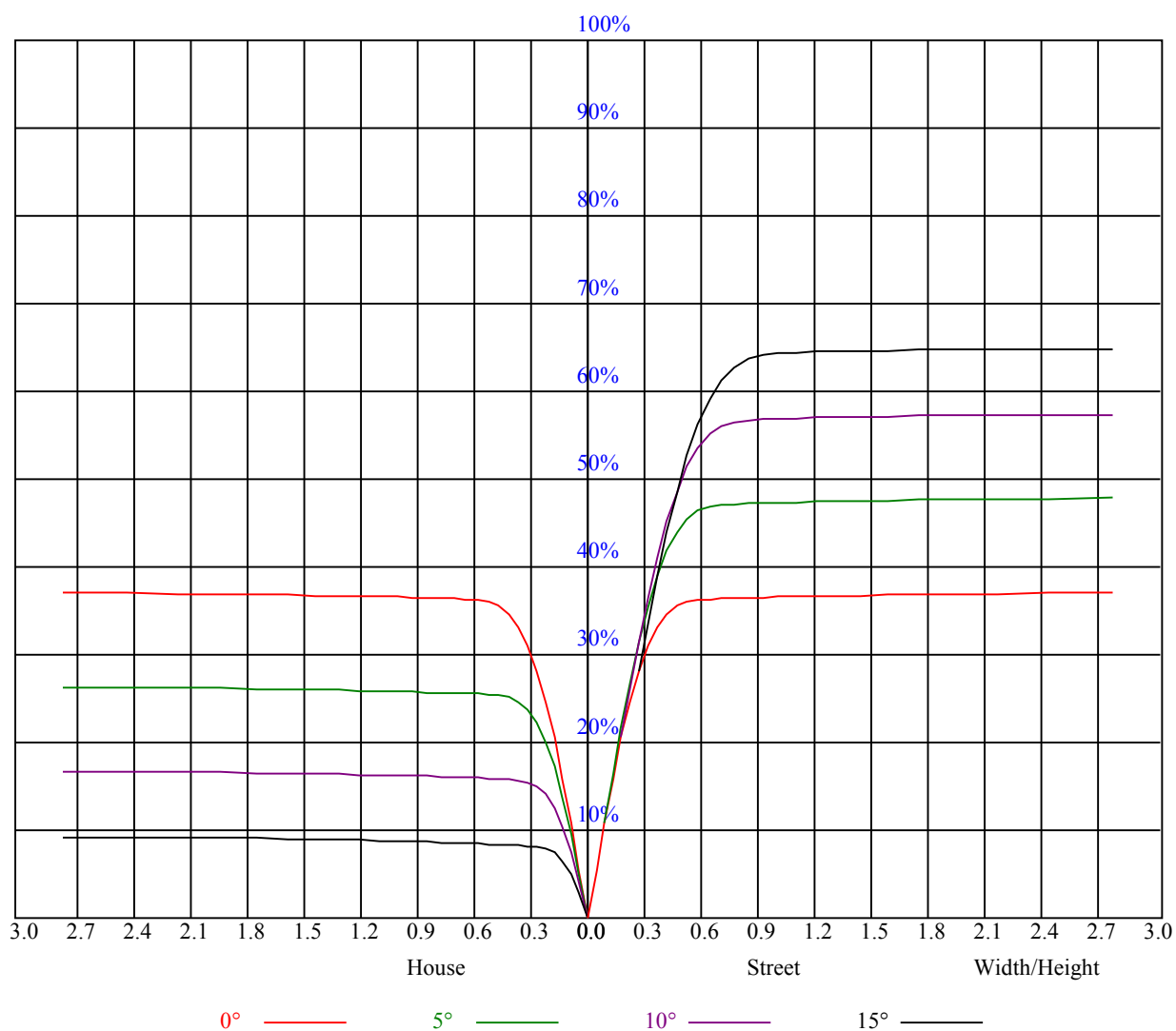
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	0.71	0.70	0.69	0.68
3	0.75	0.72	0.70	0.74	0.72	0.69	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	0.68	0.65	0.63	0.67	0.64	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	0.59	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



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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	5570.44	5568.19	5534.44	5486.06	5419.69	5310.00	5200.88	5075.44	4915.13
45.0	5583.38	5569.88	5529.94	5475.94	5394.94	5292.56	5181.19	5031.00	4881.38
90.0	5574.94	5547.38	5501.81	5419.69	5333.63	5230.69	5077.13	4933.69	4777.31
135.0	5582.81	5568.75	5532.19	5470.88	5397.75	5297.06	5175.00	5044.50	4899.94
180.0	5570.44	5554.69	5515.31	5452.31	5377.50	5274.56	5164.31	5016.94	4849.88
225.0	5583.38	5574.94	5547.38	5486.06	5416.31	5328.00	5209.88	5070.94	4929.75
270.0	5574.94	5583.94	5567.06	5529.38	5463.56	5374.69	5290.88	5149.13	5015.25
315.0	5582.81	5574.38	5543.44	5487.75	5408.44	5318.44	5209.31	5047.88	4901.06
360.0	5570.44	5568.19	5534.44	5486.06	5419.69	5310.00	5200.88	5075.44	4915.13
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	4739.63	4570.31	4369.50	4184.44	3969.00	3746.81	3545.44	3295.13	3025.69
45.0	4701.94	4506.19	4320.00	4129.31	3886.88	3688.88	3484.69	3209.06	2974.50
90.0	4566.38	4386.38	4199.06	3986.44	3793.50	3573.00	3339.56	3114.00	2875.50
135.0	4705.88	4537.13	4354.88	4167.00	3929.06	3735.00	3563.44	3279.94	3054.94
180.0	4689.00	4495.50	4291.88	4107.38	3920.06	3680.44	3486.38	3278.81	2994.19
225.0	4753.69	4564.13	4385.25	4176.56	3985.31	3769.31	3551.63	3343.50	3115.69
270.0	4848.19	4665.38	4494.38	4313.25	4077.56	3884.06	3687.19	3429.56	3204.56
315.0	4740.75	4525.13	4343.63	4155.75	3937.50	3718.13	3517.31	3268.69	3028.50
360.0	4739.63	4570.31	4369.50	4184.44	3969.00	3746.81	3545.44	3295.13	3025.69
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2778.75	2531.25	2223.56	1978.88	1740.94	1442.25	1200.38	966.38	721.13
45.0	2725.88	2444.63	2172.38	1913.06	1662.75	1399.50	1139.06	887.06	671.06
90.0	2566.13	2318.06	2073.94	1776.38	1537.88	1119.71	1063.46	794.19	597.21
135.0	2844.56	2534.63	2262.94	2032.88	1758.38	1469.25	1261.69	979.88	770.06
180.0	2749.50	2500.31	2193.19	1950.75	1712.81	1418.63	1102.61	967.89	736.93
225.0	2817.00	2572.31	2325.94	2019.94	1779.75	1541.25	1095.81	1013.46	801.68
270.0	2966.06	2691.00	2409.75	2162.81	1891.69	1629.00	1392.75	1127.81	903.94
315.0	2749.50	2468.25	2219.63	1943.44	1675.69	1436.63	1110.09	916.26	710.94
360.0	2778.75	2531.25	2223.56	1978.88	1740.94	1442.25	1200.38	966.38	721.13
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	501.19	333.00	297.00	101.25	59.63	42.86	30.88	23.63	19.74
45.0	459.00	288.00	213.19	89.16	54.23	37.35	28.63	23.46	20.36
90.0	421.93	244.58	140.51	82.97	53.83	37.41	28.63	23.06	20.25
135.0	572.63	363.94	294.75	131.34	75.32	52.48	38.14	28.18	22.44
180.0	548.21	380.98	214.65	124.43	81.96	56.81	40.89	31.39	25.31
225.0	581.01	405.84	251.21	141.02	91.01	64.74	47.14	36.45	29.31
270.0	671.63	466.31	313.88	297.00	103.39	74.36	56.31	40.44	31.89
315.0	521.38	335.93	195.13	110.03	68.01	48.04	36.06	27.17	22.22
360.0	501.19	333.00	297.00	101.25	59.63	42.86	30.88	23.63	19.74
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	17.27	15.92	15.02	14.34	13.95	13.56	13.22	12.99	12.83
45.0	18.84	18.00	17.16	16.54	16.09	15.64	15.30	14.96	14.68
90.0	18.51	17.55	16.93	16.31	15.86	15.47	15.19	14.91	14.79
135.0	19.63	17.72	16.71	16.03	15.47	15.08	14.68	14.40	14.18
180.0	20.81	18.73	17.27	16.26	15.64	15.13	14.68	14.34	14.12
225.0	23.79	21.21	19.46	17.94	17.16	16.54	16.03	15.58	15.36
270.0	26.10	22.05	19.58	18.17	17.10	16.48	15.92	15.53	15.19
315.0	18.90	16.99	15.86	15.02	14.46	14.06	13.78	13.50	13.28
360.0	17.27	15.92	15.02	14.34	13.95	13.56	13.22	12.99	12.83

Intensity data(cd)

C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	12.66	12.49	12.43	12.32	12.21	12.09	11.98	11.93	11.81
45.0	14.51	14.34	14.18	14.06	13.95	13.78	13.67	13.61	13.50
90.0	14.74	14.68	14.63	14.63	14.63	14.68	14.68	14.68	14.63
135.0	14.01	13.84	13.73	13.61	13.44	13.39	13.33	13.28	13.22
180.0	13.95	13.78	13.61	13.44	13.28	13.16	12.99	12.88	12.77
225.0	15.13	14.79	14.57	14.40	14.23	14.01	13.89	13.73	13.67
270.0	15.02	14.85	14.74	14.63	14.57	14.57	14.51	14.57	14.57
315.0	13.16	12.99	12.88	12.77	12.66	12.60	12.54	12.54	12.54
360.0	12.66	12.49	12.43	12.32	12.21	12.09	11.98	11.93	11.81
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	11.76	11.64	11.59	11.53	11.48	11.42	11.36	11.31	11.31
45.0	13.44	13.39	13.39	13.39	13.39	13.39	13.44	13.56	13.84
90.0	14.57	14.51	14.46	14.46	14.46	14.46	14.63	15.08	15.92
135.0	13.16	13.11	13.11	13.05	12.99	12.88	12.83	12.66	12.54
180.0	12.66	12.60	12.49	12.38	12.32	12.21	12.15	12.09	11.98
225.0	13.61	13.61	13.61	13.61	13.67	13.78	13.84	13.95	14.12
270.0	14.57	14.51	14.51	14.40	14.34	14.29	14.23	14.29	14.63
315.0	12.54	12.54	12.60	12.54	12.49	12.49	12.38	12.32	12.26
360.0	11.76	11.64	11.59	11.53	11.48	11.42	11.36	11.31	11.31
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.19	11.14	11.08	11.08	10.97	10.91	10.86	10.80	10.74
45.0	14.12	14.46	14.85	15.19	15.98	17.10	18.51	20.03	21.83
90.0	16.88	18.34	20.14	21.94	24.13	26.10	28.13	29.81	30.99
135.0	12.49	12.43	12.38	12.38	12.38	12.49	12.60	12.83	13.05
180.0	11.93	11.87	11.81	11.76	11.70	11.70	11.64	11.64	11.70
225.0	14.29	14.68	15.41	16.54	18.28	20.25	22.61	24.86	26.61
270.0	15.19	16.09	17.33	18.68	20.59	22.73	24.64	26.38	28.29
315.0	12.15	12.09	12.04	12.04	12.21	12.49	12.83	13.22	13.61
360.0	11.19	11.14	11.08	11.08	10.97	10.91	10.86	10.80	10.74
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	10.74	10.74	10.69	10.69	10.69	10.63	10.52	10.35	10.13
45.0	22.95	24.08	25.03	25.59	25.37	24.58	23.12	19.58	14.46
90.0	32.06	32.91	33.24	33.08	30.54	26.89	22.61	17.27	12.15
135.0	13.22	13.50	13.56	13.56	13.39	13.16	12.71	11.98	11.36
180.0	11.70	11.70	11.70	11.64	11.59	11.48	11.19	10.74	10.18
225.0	28.24	29.53	30.04	29.98	29.14	27.34	23.46	17.72	12.77
270.0	29.59	30.66	30.83	30.21	29.03	26.72	23.12	19.46	14.85
315.0	14.06	14.34	14.46	14.29	13.78	13.16	12.43	11.64	10.91
360.0	10.74	10.74	10.69	10.69	10.69	10.63	10.52	10.35	10.13
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.68	9.23	8.83	8.61	8.49	8.44	8.33	8.21	8.16
45.0	10.29	9.84	9.62	9.45	9.23	9.06	9.06	8.49	8.27
90.0	10.35	9.62	9.17	9.06	8.94	8.89	8.89	8.44	8.10
135.0	10.74	10.01	9.45	9.00	8.72	8.61	8.49	8.44	8.33
180.0	9.68	9.23	9.06	8.94	8.89	8.89	9.00	9.17	8.27
225.0	10.58	10.18	10.01	9.90	9.73	9.68	9.84	10.18	8.55
270.0	11.19	10.13	9.45	9.06	9.00	8.94	8.94	9.17	8.38
315.0	10.35	9.68	9.11	8.66	8.55	8.44	8.38	8.33	8.10
360.0	9.68	9.23	8.83	8.61	8.49	8.44	8.33	8.21	8.16

Intensity data(cd)

Appendix Page: 18 Total:18

C/ $\gamma(^{\circ})$	90.0
0.0	8.04
45.0	8.10
90.0	7.93
135.0	8.04
180.0	8.16
225.0	8.44
270.0	8.10
315.0	7.99
360.0	8.04