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Nata

LumCAT: 2-2264-M	
Luminaire: 92.70.131.00	
Report No: 200921-B045	Voltage(V): 230.7000
Test No: 200921-C045	Current(A): 0.0890
LampCAT: LUMINUS CXM-14-AC40	Power (W): 19.6200
Lamp flux(lm): 2101.3	PF: 0.9530
Number of Lamps: 1	Ballast type: AC
Length(feet)(ft.):0.000	Width(feet)(ft.):0.000
Phm Type: C	Height(feet)(ft.):0.000

Photometric Results

Lumens(lm): 2025.44
Efficiency(%): 96.39%
Lumens(lm)/Power(W): 103.23
Central intensity(cd): 4245.326
Maximum intensity(cd): 4245.963
Angle of maximum intensity: $C=0.0 \gamma=1.0$
Beam Angle(50%Imax): [C0/180]Total=37.8
[C90/270]Total=37.8
Field angle(10%Imax): [C0/180]Total=69.9
[C90/270]Total=69.9
Maximum s/h(1/2): C0_180=0.63 C90_270=0.63
Maximum s/h(1/4): C0_180=0.61 C90_270=0.61
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 96.43%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 99.722%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4245.326	1.016	1.016	.048%	.050%
1.0	4245.964	8.126	9.142	.387%	.451%
2.0	4237.031	16.216	25.357	.772%	1.252%
3.0	4225.779	24.253	49.61	1.154%	2.449%
4.0	4201.939	32.143	81.753	1.530%	4.036%
5.0	4170.443	39.859	121.612	1.897%	6.004%
6.0	4128.041	47.318	168.931	2.252%	8.340%
7.0	4072.589	54.427	223.358	2.590%	11.028%
8.0	3999.910	61.046	284.404	2.905%	14.042%
9.0	3909.540	67.067	351.471	3.192%	17.353%
10.0	3799.332	72.348	423.82	3.443%	20.925%
11.0	3664.066	76.668	500.488	3.649%	24.710%
12.0	3506.643	79.951	580.438	3.805%	28.657%
13.0	3331.064	82.172	662.61	3.911%	32.714%
14.0	3138.026	83.250	745.86	3.962%	36.825%
15.0	2934.431	83.286	829.146	3.964%	40.937%
16.0	2725.848	82.393	911.539	3.921%	45.004%
17.0	2515.931	80.665	992.204	3.839%	48.987%
18.0	2315.585	78.468	1070.673	3.734%	52.861%
19.0	2100.563	74.995	1145.667	3.569%	56.564%
20.0	1916.516	71.881	1217.548	3.421%	60.113%
21.0	1718.838	67.549	1285.097	3.215%	63.448%
22.0	1558.630	64.028	1349.125	3.047%	66.609%
23.0	1390.940	59.599	1408.724	2.836%	69.551%
24.0	1274.410	56.843	1465.566	2.705%	72.358%
25.0	1140.588	52.860	1518.427	2.516%	74.968%
26.0	1058.385	50.879	1569.306	2.421%	77.480%
27.0	976.901	48.635	1617.941	2.315%	79.881%
28.0	916.135	47.165	1665.106	2.245%	82.210%
29.0	857.116	45.568	1710.674	2.169%	84.459%
30.0	802.592	44.006	1754.68	2.094%	86.632%
31.0	732.448	41.368	1796.049	1.969%	88.674%
32.0	656.532	38.152	1834.201	1.816%	90.558%
33.0	576.567	34.436	1868.637	1.639%	92.258%
34.0	496.806	30.465	1899.101	1.450%	93.762%
35.0	419.330	26.375	1925.477	1.255%	95.065%
36.0	342.167	22.055	1947.532	1.050%	96.153%
37.0	268.786	17.739	1965.271	.844%	97.029%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	215.335	14.538	1979.809	.692%	97.747%
39.0	174.726	12.058	1991.867	.574%	98.342%
40.0	101.705	7.169	1999.036	.341%	98.696%
41.0	55.243	3.974	2003.01	.189%	98.893%
42.0	34.890	2.560	2005.57	.122%	99.019%
43.0	26.357	1.971	2007.542	.094%	99.116%
44.0	21.601	1.645	2009.187	.078%	99.198%
45.0	17.720	1.374	2010.561	.065%	99.265%
46.0	14.953	1.180	2011.741	.056%	99.324%
47.0	12.999	1.043	2012.783	.050%	99.375%
48.0	11.450	0.933	2013.716	.044%	99.421%
49.0	10.226	0.846	2014.563	.040%	99.463%
50.0	9.211	0.774	2015.336	.037%	99.501%
51.0	8.364	0.713	2016.049	.034%	99.536%
52.0	7.633	0.660	2016.709	.031%	99.569%
53.0	7.007	0.614	2017.323	.029%	99.599%
54.0	6.473	0.574	2017.897	.027%	99.628%
55.0	5.998	0.539	2018.436	.026%	99.654%
56.0	5.621	0.511	2018.947	.024%	99.679%
57.0	5.290	0.487	2019.433	.023%	99.703%
58.0	4.901	0.456	2019.889	.022%	99.726%
59.0	4.623	0.435	2020.323	.021%	99.747%
60.0	4.368	0.415	2020.738	.020%	99.768%
61.0	4.118	0.395	2021.133	.019%	99.787%
62.0	3.834	0.371	2021.504	.018%	99.806%
63.0	3.579	0.350	2021.854	.017%	99.823%
64.0	3.300	0.325	2022.179	.015%	99.839%
65.0	3.080	0.306	2022.486	.015%	99.854%
66.0	2.825	0.283	2022.769	.013%	99.868%
67.0	2.558	0.258	2023.027	.012%	99.881%
68.0	2.314	0.235	2023.262	.011%	99.892%
69.0	2.111	0.216	2023.478	.010%	99.903%
70.0	1.908	0.197	2023.675	.009%	99.913%
71.0	1.769	0.183	2023.858	.009%	99.922%
72.0	1.607	0.168	2024.026	.008%	99.930%
73.0	1.444	0.151	2024.177	.007%	99.938%
74.0	1.264	0.133	2024.311	.006%	99.944%
75.0	1.079	0.114	2024.425	.005%	99.950%

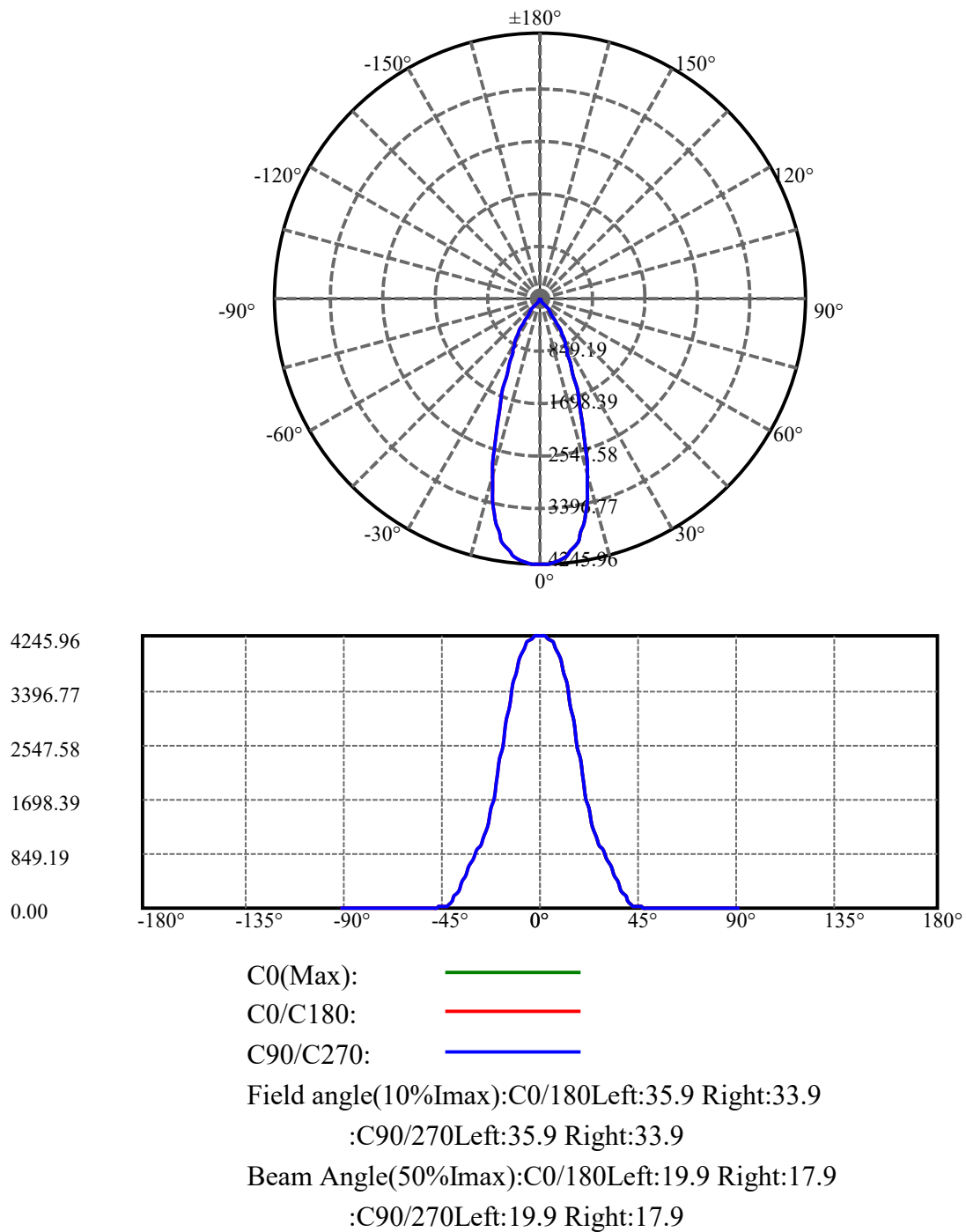
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	0.940	0.100	2024.525	.005%	99.955%
77.0	0.876	0.094	2024.618	.004%	99.959%
78.0	0.806	0.086	2024.705	.004%	99.964%
79.0	0.742	0.080	2024.785	.004%	99.968%
80.0	0.731	0.079	2024.864	.004%	99.972%
81.0	0.667	0.072	2024.936	.003%	99.975%
82.0	0.632	0.069	2025.005	.003%	99.978%
83.0	0.586	0.064	2025.068	.003%	99.982%
84.0	0.568	0.062	2025.13	.003%	99.985%
85.0	0.528	0.058	2025.188	.003%	99.988%
86.0	0.516	0.056	2025.245	.003%	99.990%
87.0	0.516	0.057	2025.301	.003%	99.993%
88.0	0.493	0.054	2025.355	.003%	99.996%
89.0	0.528	0.058	2025.413	.003%	99.999%
90.0	0.510	0.028	2025.441	.001%	100.000%

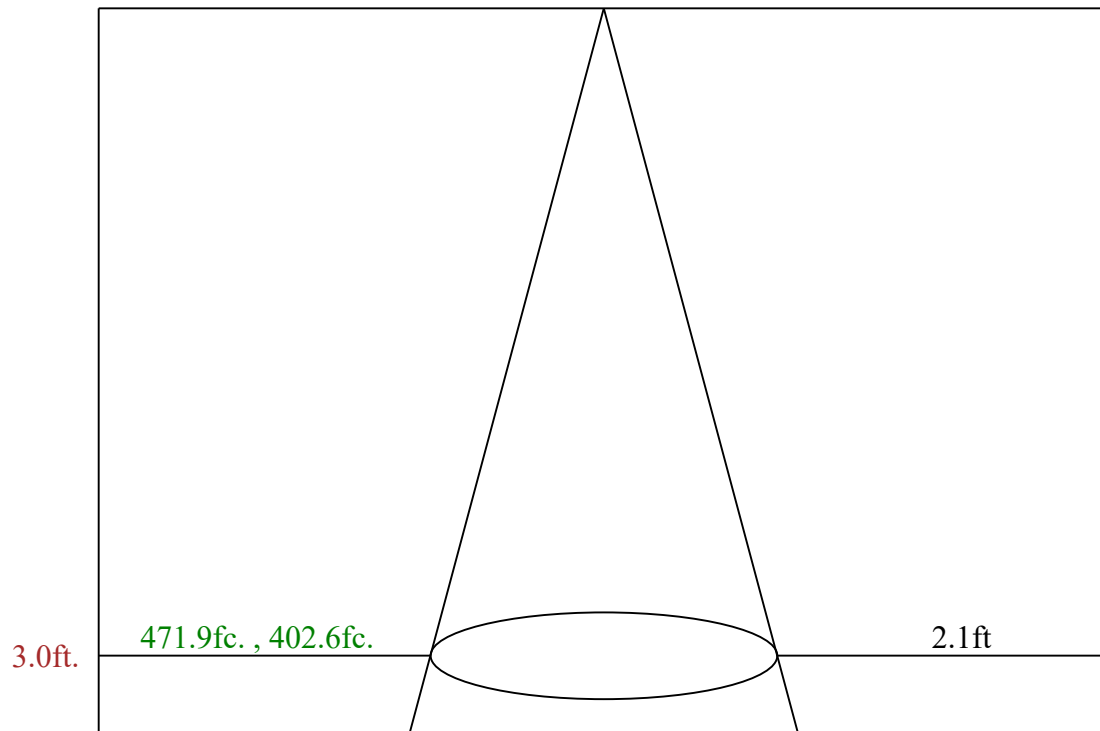
ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1754.68	83.50%	86.63%
0-40	1999.04	95.13%	98.70%
0-60	2020.74	96.17%	99.77%
0-90	2025.41	96.39%	100.00%
0-120	2025.41	96.39%	100.00%
0-180	2025.44	96.39%	100.00%
60-90	5.09	0.24%	0.25%
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%
0-27.05	1620.35	77.11%	80.00%

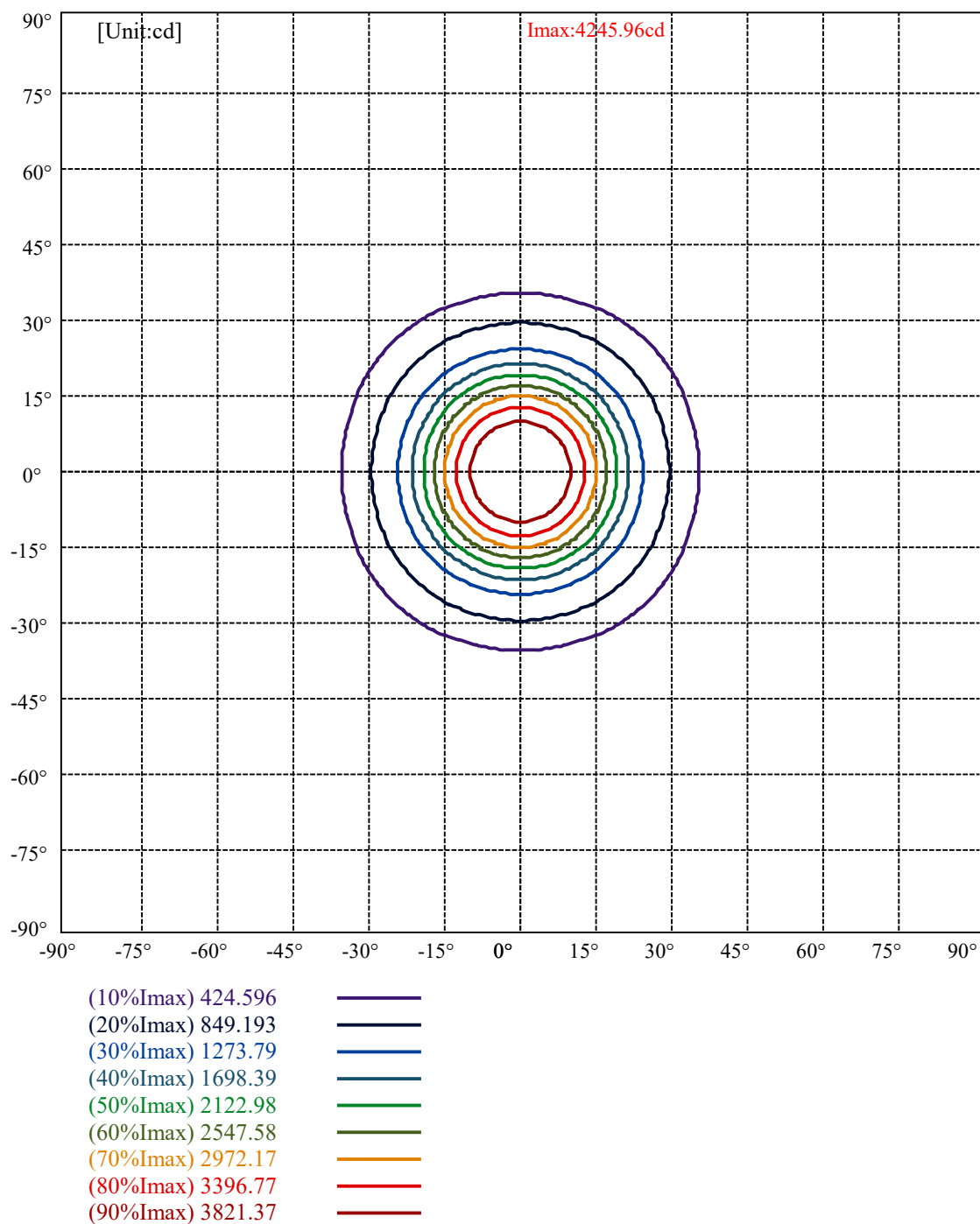
ZONAL LUMEN SUMMARY

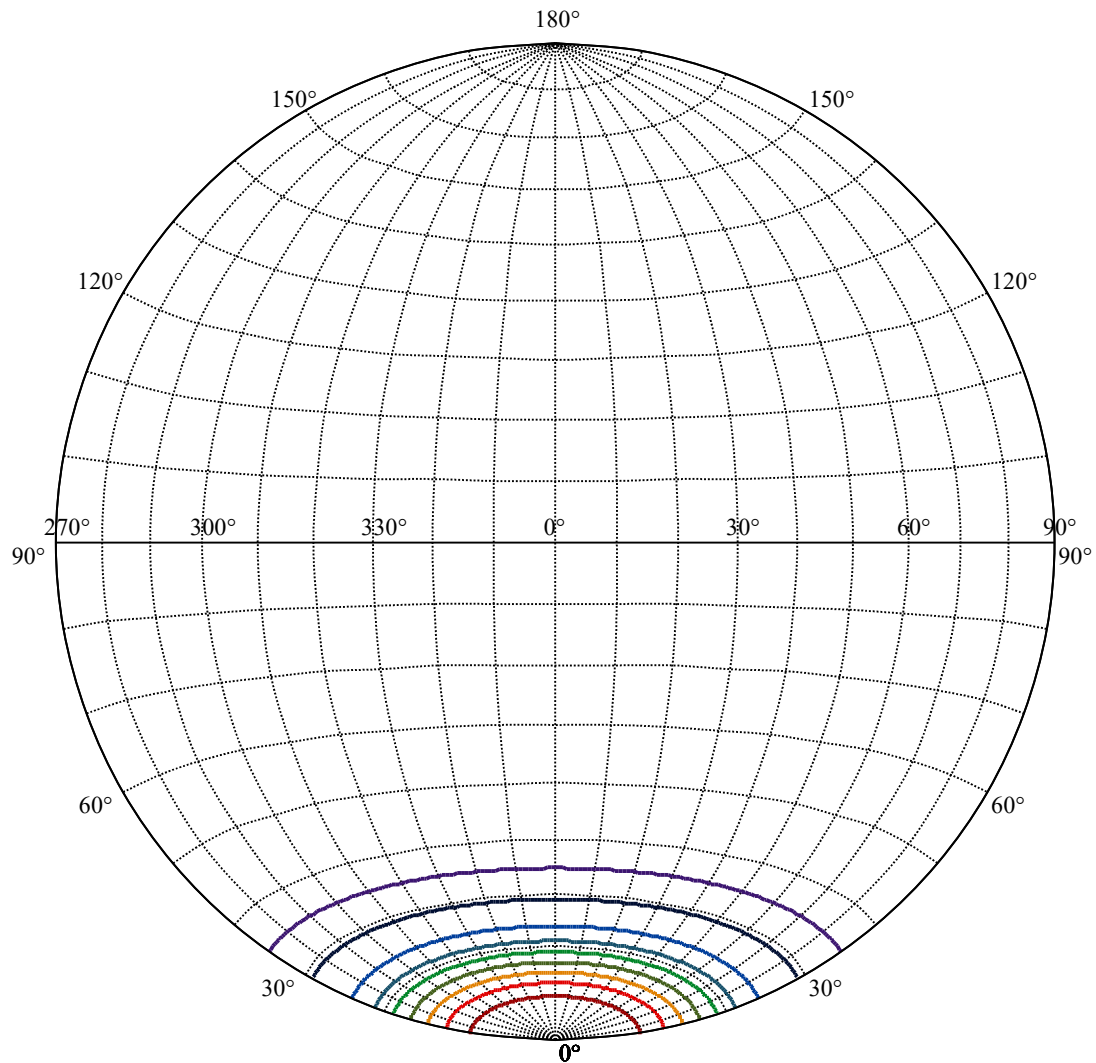
0-10	423.82
10-20	793.73
20-30	537.13
30-40	244.36
40-50	16.30
50-60	5.40
60-70	2.94
70-80	1.19
80-90	0.55
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00





Max , Ave Beam angle of C0 plane 37.79





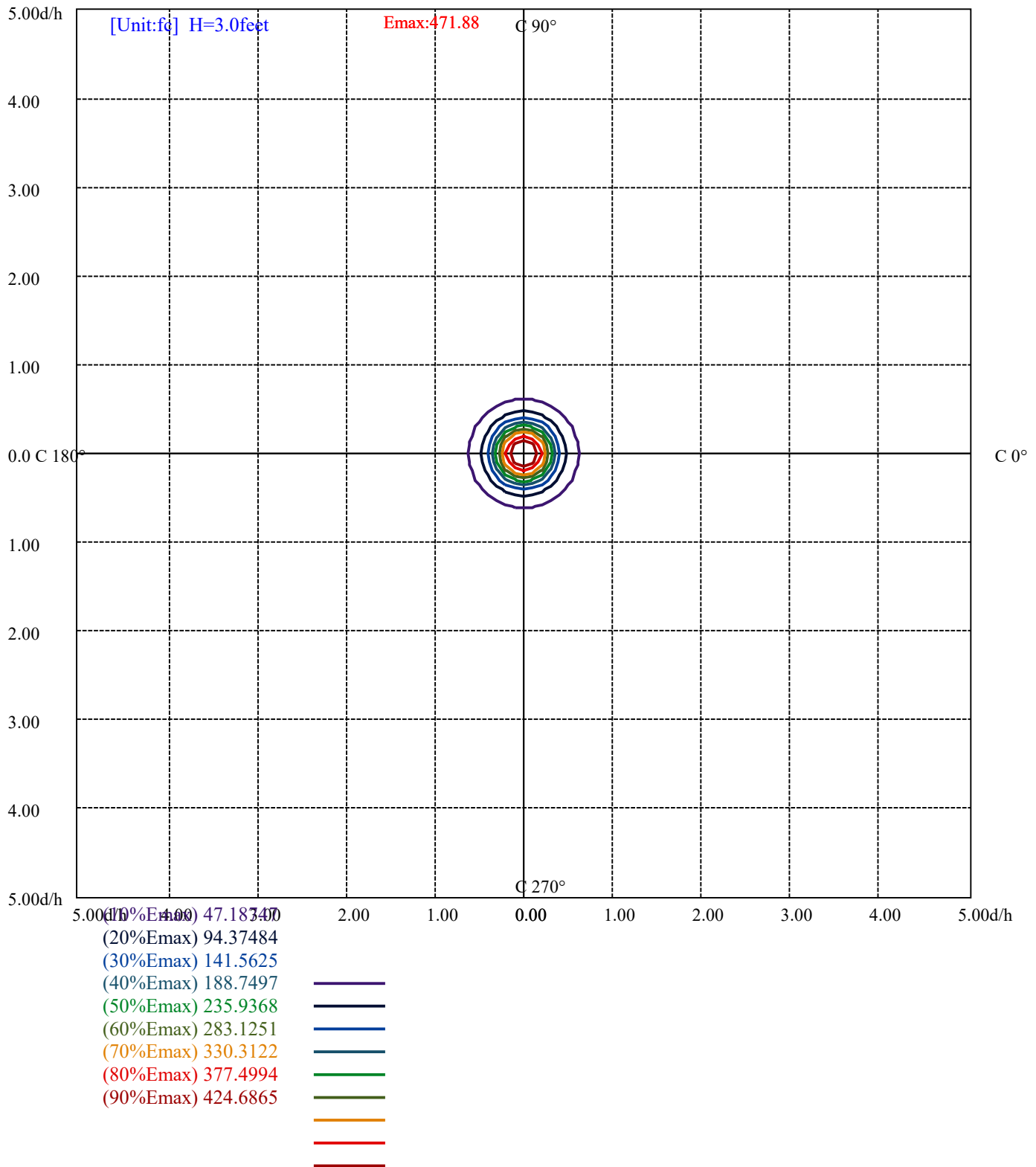
House

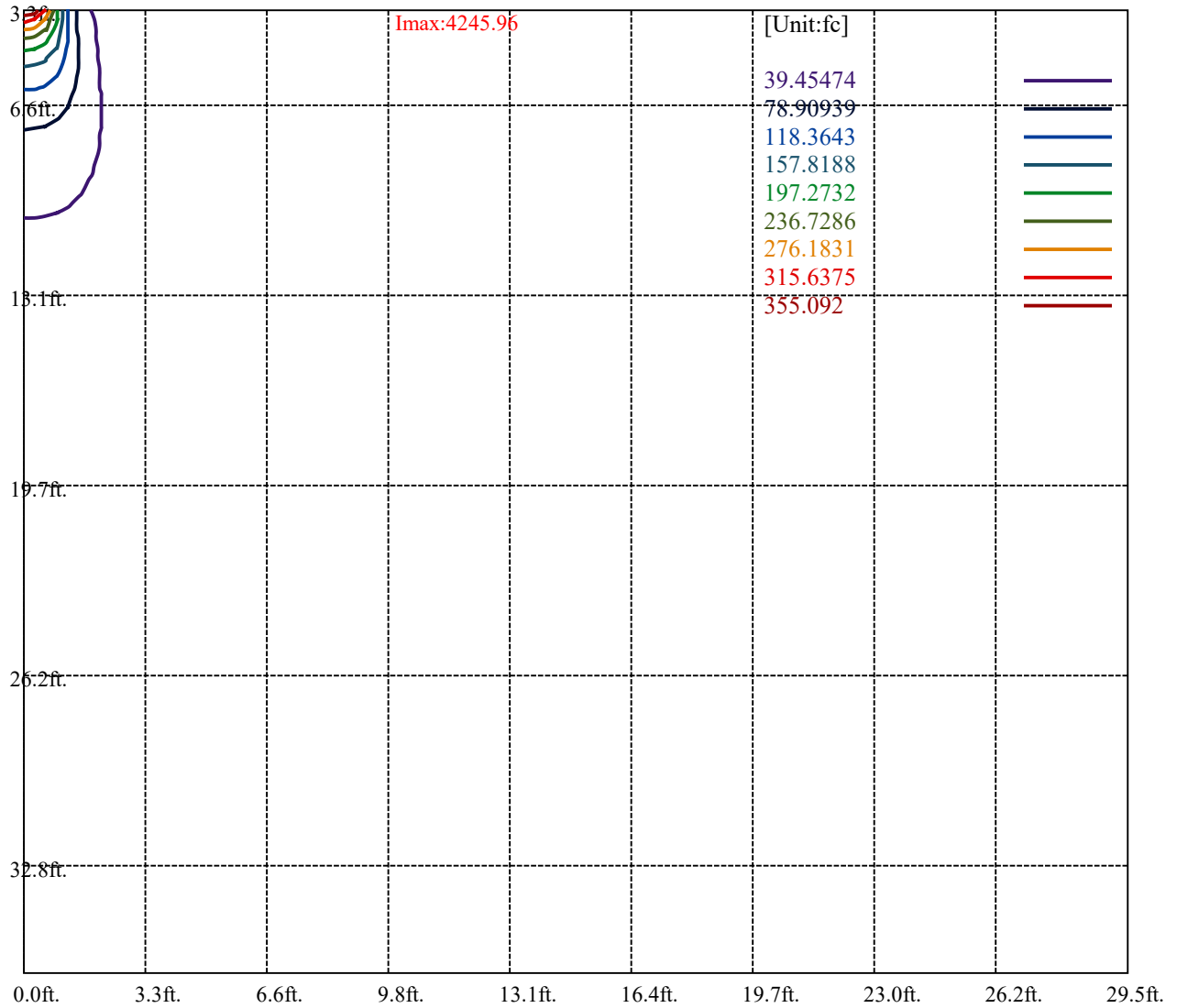
[Unit:cd]

Road

Imax:4245.96

(10%Imax)	424.596	—
(20%Imax)	849.193	—
(30%Imax)	1273.79	—
(40%Imax)	1698.39	—
(50%Imax)	2122.98	—
(60%Imax)	2547.58	—
(70%Imax)	2972.17	—
(80%Imax)	3396.77	—
(90%Imax)	3821.37	—





Luminance Table

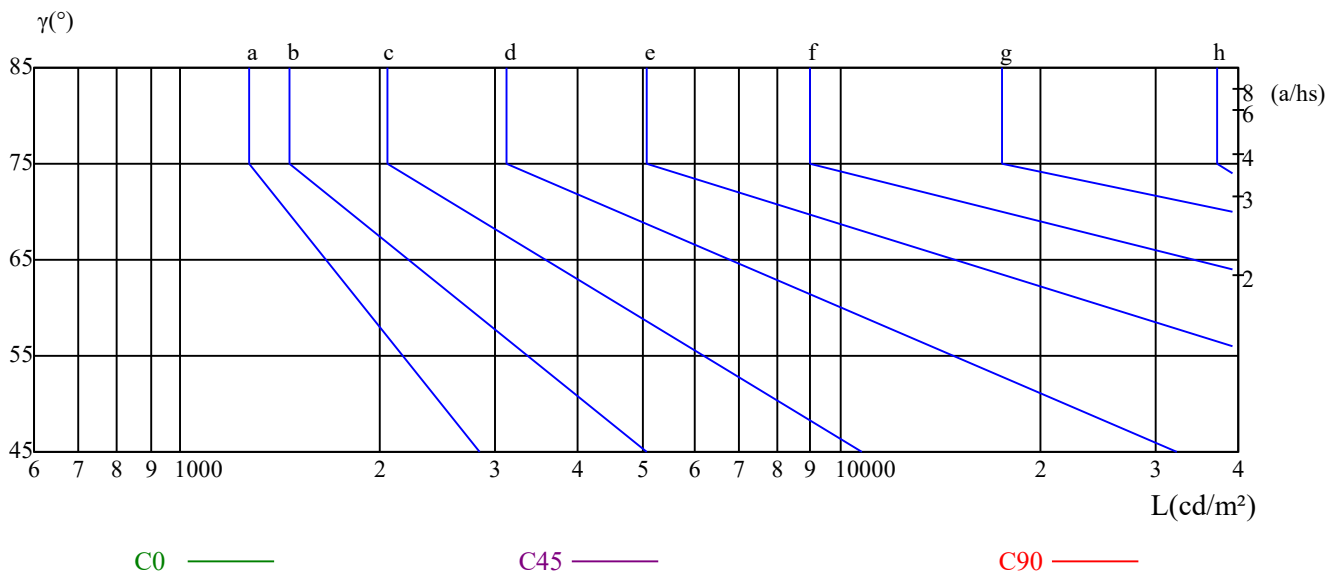
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

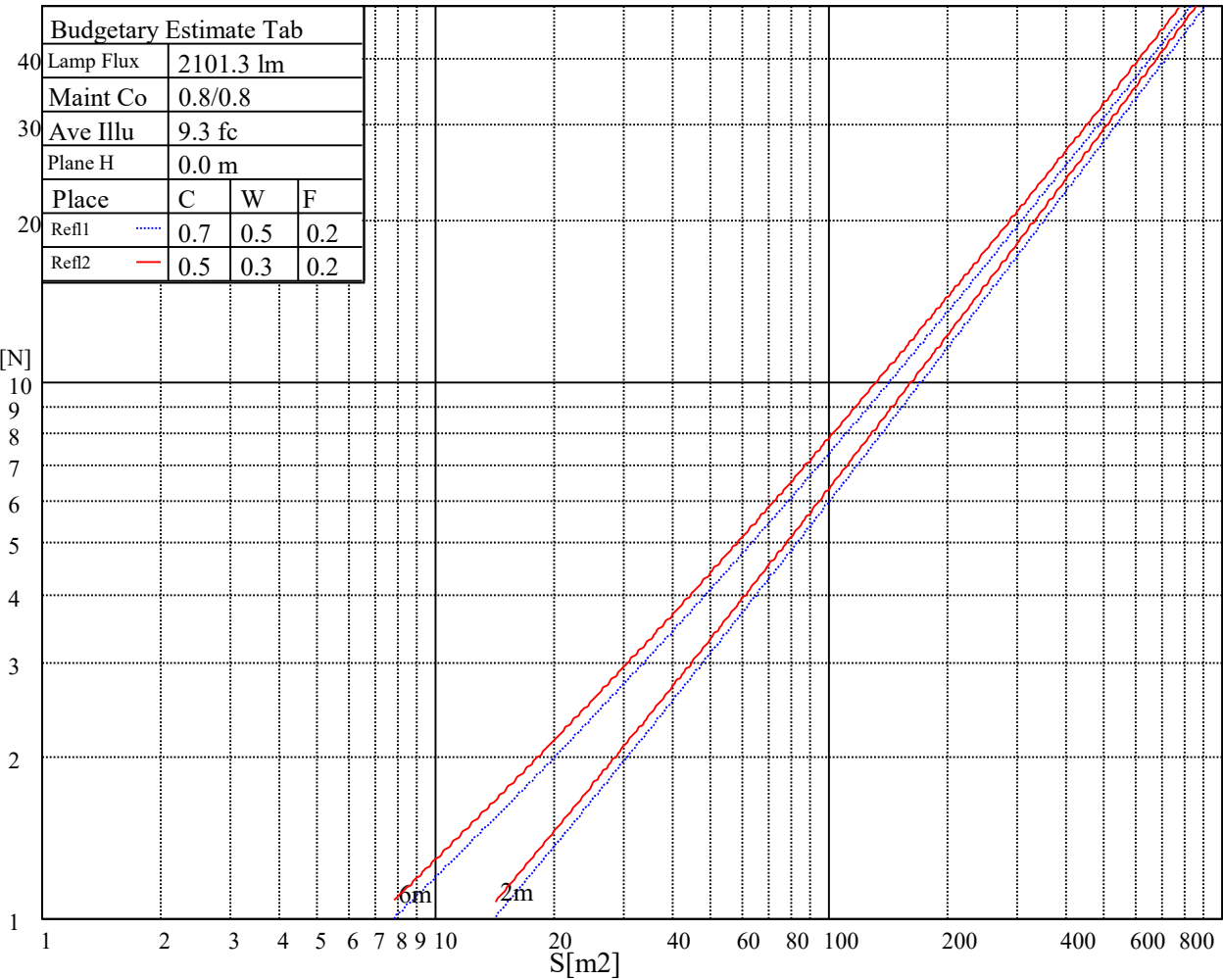
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

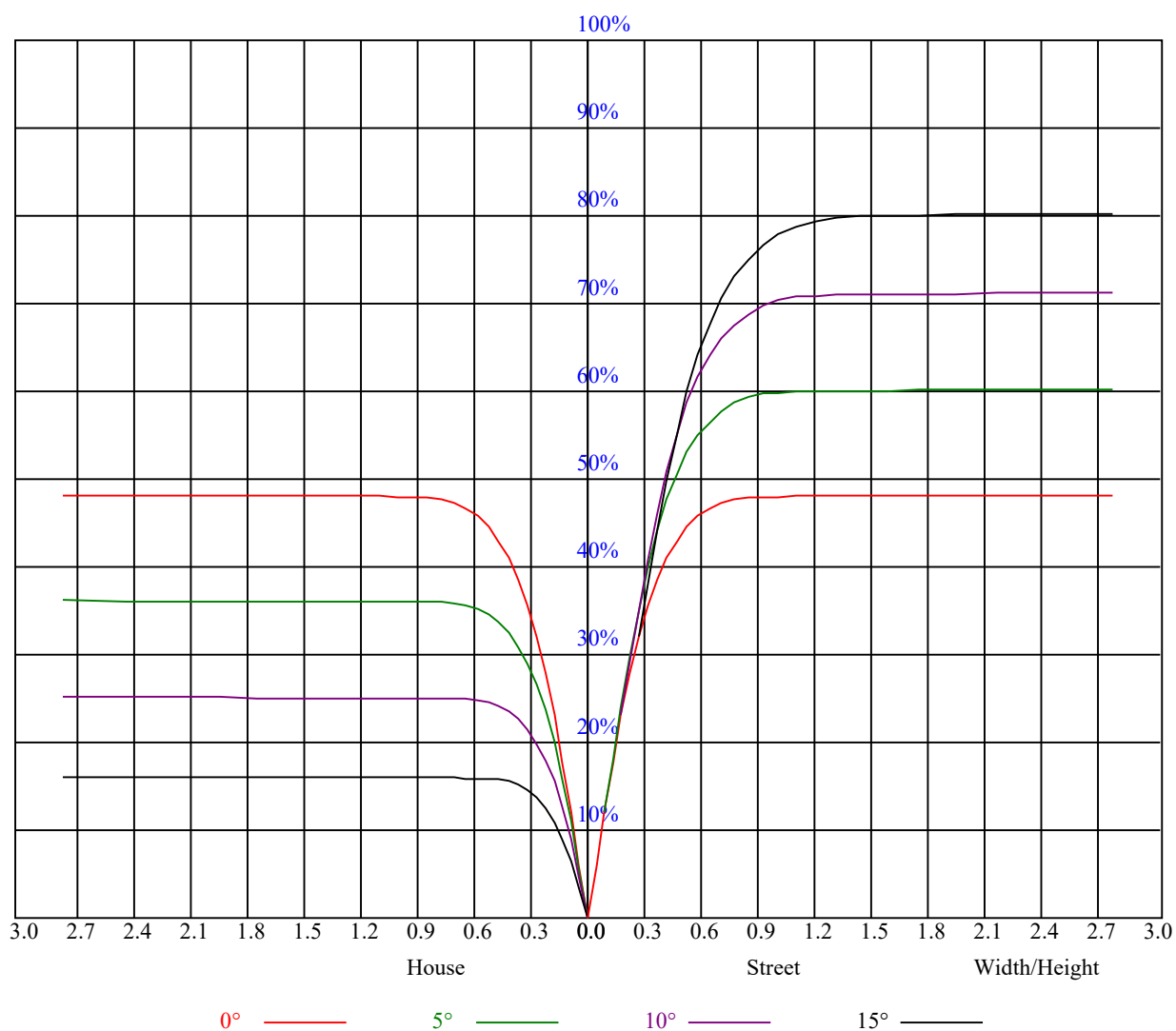
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

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	1.15	1.15	1.15	1.12	1.12	1.12	1.07	1.07	1.07	1.03	1.03	1.03	0.98	0.98	0.98	0.96
1	1.08	1.06	1.04	1.06	1.04	1.02	1.02	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92
2	1.02	0.98	0.96	1.00	0.97	0.95	0.97	0.95	0.93	0.94	0.92	0.91	0.92	0.90	0.89	0.87
3	0.96	0.92	0.89	0.95	0.91	0.88	0.93	0.90	0.87	0.90	0.88	0.86	0.88	0.86	0.84	0.83
4	0.91	0.87	0.84	0.90	0.86	0.83	0.88	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.79
5	0.87	0.82	0.79	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.80	0.77	0.82	0.79	0.77	0.75
6	0.83	0.78	0.75	0.82	0.78	0.75	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.75	0.73	0.72
7	0.79	0.74	0.71	0.79	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.69
8	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.67	0.66
9	0.73	0.68	0.65	0.72	0.68	0.65	0.72	0.67	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.63
10	0.70	0.65	0.62	0.70	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.61



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	4251.24	4248.46	4237.79	4220.15	4193.70	4158.44	4114.35	4048.00	3970.97
45.0	4256.81	4246.60	4232.68	4222.01	4196.02	4167.25	4126.42	4079.09	4015.51
90.0	4231.75	4223.86	4180.25	4158.44	4112.50	4054.03	3987.67	3904.15	3796.95
135.0	4241.50	4236.86	4227.58	4200.20	4168.18	4130.13	4071.66	4003.91	3920.39
180.0	4251.24	4252.17	4247.99	4247.53	4223.40	4202.98	4164.47	4129.20	4070.73
225.0	4256.81	4256.35	4257.27	4256.81	4246.60	4219.69	4200.66	4156.58	4093.01
270.0	4231.75	4247.07	4259.59	4260.52	4255.42	4245.67	4217.83	4183.03	4134.77
315.0	4241.50	4256.35	4253.10	4240.57	4219.69	4185.35	4141.27	4076.77	3996.95
360.0	4251.24	4248.46	4237.79	4220.15	4193.70	4158.44	4114.35	4048.00	3970.97
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3868.41	3746.84	3593.24	3416.91	3222.94	3015.06	2796.03	2576.55	2357.99
45.0	3931.52	3830.83	3699.04	3547.77	3372.83	3181.18	2972.83	2763.09	2547.78
90.0	3678.63	3540.34	3387.68	3214.59	3041.97	2857.29	2671.21	2480.49	2293.95
135.0	3820.62	3704.61	3569.11	3412.73	3247.07	3061.46	2876.31	2686.52	2497.66
180.0	3997.42	3908.79	3783.50	3646.61	3479.55	3291.62	3086.05	2866.10	2647.54
225.0	4005.77	3905.07	3769.58	3596.03	3401.13	3185.36	2950.56	2715.76	2476.31
270.0	4072.59	3979.32	3871.66	3740.34	3583.50	3404.38	3215.06	3008.56	2798.35
315.0	3901.36	3778.86	3638.72	3478.16	3299.51	3107.86	2907.40	2709.72	2507.87
360.0	3868.41	3746.84	3593.24	3416.91	3222.94	3015.06	2796.03	2576.55	2357.99
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2142.67	1929.68	1723.65	1531.54	1363.56	1222.96	1149.64	1016.00	911.50
45.0	2332.93	2157.99	1944.53	1721.80	1522.73	1344.07	1195.12	1076.79	980.27
90.0	2106.94	1917.62	1737.11	1574.70	1429.46	1307.88	1203.47	1132.47	1049.41
135.0	2307.87	2120.86	1937.57	1757.06	1594.65	1452.19	1378.88	1230.38	1176.09
180.0	2427.59	2199.29	2067.97	1770.98	1652.19	1465.65	1306.02	1175.16	1067.04
225.0	2236.87	1998.36	1766.34	1552.89	1433.63	1200.69	1122.73	903.66	903.66
270.0	2580.26	2367.73	2157.52	2028.52	1830.84	1644.77	1480.03	1342.68	1225.74
315.0	2389.54	2112.98	1997.43	1813.21	1641.98	1489.32	1359.39	1247.55	1153.36
360.0	2142.67	1929.68	1723.65	1531.54	1363.56	1222.96	1149.64	1016.00	911.50
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	898.74	840.13	790.34	728.02	656.19	582.50	505.43	426.91	353.08
45.0	902.31	840.13	785.84	735.26	671.22	600.23	526.91	455.91	380.28
90.0	890.20	890.20	848.62	768.35	679.34	590.34	501.62	417.54	335.22
135.0	1093.49	1021.57	959.39	891.64	809.97	724.12	635.96	546.86	461.02
180.0	978.88	905.56	845.24	792.34	732.01	660.09	585.84	511.13	435.50
225.0	850.20	795.77	753.92	704.12	639.81	570.62	498.37	427.75	354.71
270.0	1125.51	1041.99	967.74	908.81	853.13	789.09	710.67	628.53	545.01
315.0	1075.86	993.73	905.84	892.20	817.91	735.26	647.74	559.81	489.83
360.0	898.74	840.13	790.34	728.02	656.19	582.50	505.43	426.91	353.08
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	280.46	210.86	147.66	103.57	50.39	27.75	19.58	15.22	12.34
45.0	307.89	239.21	239.21	178.19	82.97	41.25	20.42	16.33	12.95
90.0	259.67	188.17	126.22	93.97	54.76	34.01	30.44	25.06	20.79
135.0	376.56	296.29	252.20	252.20	98.75	65.10	42.64	37.17	31.09
180.0	361.25	289.79	246.17	246.17	107.93	61.16	29.19	18.98	15.78
225.0	283.85	217.40	155.03	98.10	52.57	23.53	17.12	14.06	11.00
270.0	461.95	383.06	305.10	245.24	245.24	114.34	68.91	41.21	32.67
315.0	405.70	325.52	251.09	180.37	121.02	74.80	50.81	42.83	36.19
360.0	280.46	210.86	147.66	103.57	50.39	27.75	19.58	15.22	12.34

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	9.88	8.45	7.42	6.54	5.80	5.24	4.78	4.32	4.08
45.0	9.88	8.03	6.96	6.26	5.71	5.29	5.01	4.73	4.45
90.0	17.77	15.36	13.69	12.30	11.09	10.07	9.19	8.45	7.70
135.0	25.75	21.81	18.56	16.15	14.15	12.48	11.09	9.84	8.82
180.0	12.58	10.35	9.10	8.03	7.38	6.77	6.36	5.99	5.61
225.0	8.58	7.38	6.64	6.17	5.75	5.38	5.06	4.83	4.59
270.0	27.01	22.23	18.93	16.38	14.48	12.90	11.60	10.53	9.61
315.0	30.30	26.03	22.69	19.77	17.45	15.55	13.83	12.39	11.18
360.0	9.88	8.45	7.42	6.54	5.80	5.24	4.78	4.32	4.08
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	3.99	3.81	3.62	3.48	3.43	3.34	3.34	3.20	3.16
45.0	4.22	4.08	3.94	3.85	3.62	3.53	3.43	3.34	3.11
90.0	7.10	6.54	6.08	5.66	5.29	4.92	4.55	4.22	3.81
135.0	7.98	7.15	6.50	5.94	5.43	4.97	4.55	4.27	3.99
180.0	5.29	5.06	4.78	4.55	4.41	4.18	3.90	3.67	3.48
225.0	4.32	4.08	3.90	3.76	3.57	3.43	3.29	3.20	2.92
270.0	8.72	7.98	7.38	7.01	6.31	5.85	5.66	5.29	4.97
315.0	10.16	9.28	8.77	8.07	7.15	6.77	6.22	5.75	5.24
360.0	3.99	3.81	3.62	3.48	3.43	3.34	3.34	3.20	3.16
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	3.06	2.92	2.78	2.55	2.32	2.13	1.95	1.76	1.62
45.0	2.88	2.69	2.55	2.37	2.09	1.90	1.76	1.62	1.48
90.0	3.57	3.29	3.02	2.69	2.37	2.13	2.00	1.81	1.58
135.0	3.76	3.29	3.16	2.88	2.64	2.41	2.23	1.95	1.90
180.0	3.20	2.97	2.78	2.60	2.37	2.09	2.00	1.86	1.72
225.0	2.83	2.64	2.46	2.32	2.13	2.00	1.76	1.62	1.58
270.0	4.64	4.32	3.94	3.62	3.39	3.02	2.69	2.41	2.27
315.0	4.69	4.27	3.94	3.57	3.16	2.83	2.51	2.23	2.00
360.0	3.06	2.92	2.78	2.55	2.32	2.13	1.95	1.76	1.62
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	1.44	1.35	1.21	0.97	0.84	0.88	0.84	0.74	0.70
45.0	1.39	1.30	1.16	1.02	0.88	0.84	0.79	0.74	0.74
90.0	1.35	1.21	1.07	0.93	0.79	0.79	0.79	0.65	0.65
135.0	1.76	1.58	1.30	1.11	1.02	0.93	0.84	0.74	0.74
180.0	1.58	1.44	1.30	1.07	0.97	0.88	0.84	0.84	0.74
225.0	1.48	1.30	1.16	0.97	0.93	0.84	0.74	0.70	0.74
270.0	2.09	1.81	1.58	1.35	1.16	0.97	0.84	0.79	0.79
315.0	1.76	1.58	1.35	1.21	0.93	0.88	0.79	0.74	0.74
360.0	1.44	1.35	1.21	0.97	0.84	0.88	0.84	0.74	0.70
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	0.65	0.65	0.56	0.60	0.56	0.56	0.56	0.46	0.46
45.0	0.65	0.60	0.60	0.56	0.51	0.51	0.51	0.46	0.51
90.0	0.60	0.65	0.51	0.56	0.51	0.46	0.51	0.46	0.42
135.0	0.74	0.65	0.65	0.56	0.56	0.56	0.56	0.51	0.46
180.0	0.70	0.65	0.65	0.60	0.56	0.56	0.51	0.70	1.02
225.0	0.65	0.60	0.56	0.56	0.56	0.51	0.51	0.51	0.46
270.0	0.70	0.65	0.60	0.56	0.51	0.51	0.46	0.42	0.46
315.0	0.65	0.60	0.56	0.56	0.46	0.46	0.51	0.42	0.42
360.0	0.65	0.65	0.56	0.60	0.56	0.56	0.56	0.46	0.46

Intensity data(cd)

Appendix Page: 18 Total:18

C/ γ (°)	90.0
0.0	0.46
45.0	0.46
90.0	0.46
135.0	0.46
180.0	1.02
225.0	0.42
270.0	0.37
315.0	0.42
360.0	0.46