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Nata

LumCAT: 1-0935-N
Luminaire: 92.70.246.00

Report No: 210708-B021	Voltage(V): 36.1400
Test No: 210708-C021	Current(A): 0.5100
LampCAT: Fortimo LED SLM 1204 G7N	Power (W): 18.4310
Lamp flux(lm): 2446.6	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 570	Width(mm): 45
Phm Type: C	Height(mm): 20

Photometric Results

Lumens(lm): 1936.15
Efficiency(%): 79.14%
Lumens(lm)/Power(W): 105.05
Central intensity(cd): 10234.690
Maximum intensity(cd): 10234.690
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=18.5
[C90/270]Total=18.5
Field angle(10%Imax): [C0/180]Total=46.7
[C90/270]Total=46.7
Maximum s/h(1/2): C0_180=0.32 C90_270=0.32
Maximum s/h(1/4): C0_180=0.36 C90_270=0.36
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 79.14%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.987%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10234.688	0.000	0	.000%	.000%
1.0	10172.672	9.765	9.765	.399%	.504%
2.0	9955.055	28.889	38.654	1.181%	1.996%
3.0	9575.367	46.710	85.364	1.909%	4.409%
4.0	9063.984	62.392	147.756	2.550%	7.631%
5.0	8456.906	75.374	223.13	3.081%	11.524%
6.0	7608.727	84.429	307.559	3.451%	15.885%
7.0	6777.141	89.293	396.852	3.650%	20.497%
8.0	6026.344	91.632	488.484	3.745%	25.230%
9.0	5286.305	91.683	580.167	3.747%	29.965%
10.0	4596.961	89.440	669.607	3.656%	34.585%
11.0	4102.242	86.923	756.53	3.553%	39.074%
12.0	3680.719	85.079	841.609	3.477%	43.468%
13.0	3233.320	82.052	923.661	3.354%	47.706%
14.0	2921.555	78.782	1002.443	3.220%	51.775%
15.0	2648.813	76.472	1078.915	3.126%	55.725%
16.0	2368.758	73.521	1152.437	3.005%	59.522%
17.0	2117.461	69.862	1222.299	2.855%	63.131%
18.0	1914.750	66.482	1288.782	2.717%	66.564%
19.0	1709.156	63.049	1351.83	2.577%	69.821%
20.0	1532.250	59.327	1411.157	2.425%	72.885%
21.0	1348.467	55.316	1466.472	2.261%	75.742%
22.0	1209.340	51.400	1517.873	2.101%	78.397%
23.0	1068.152	47.788	1565.661	1.953%	80.865%
24.0	930.734	43.703	1609.363	1.786%	83.122%
25.0	787.001	39.058	1648.421	1.596%	85.139%
26.0	666.872	34.319	1682.74	1.403%	86.912%
27.0	555.420	29.904	1712.643	1.222%	88.456%
28.0	429.293	24.931	1737.574	1.019%	89.744%
29.0	341.156	20.157	1757.731	.824%	90.785%
30.0	281.552	16.813	1774.544	.687%	91.653%
31.0	208.048	13.625	1788.169	.557%	92.357%
32.0	151.706	10.307	1798.476	.421%	92.889%
33.0	123.687	8.113	1806.589	.332%	93.308%
34.0	106.474	6.965	1813.554	.285%	93.668%
35.0	96.785	6.312	1819.867	.258%	93.994%
36.0	90.450	5.962	1825.828	.244%	94.302%
37.0	83.939	5.688	1831.516	.232%	94.596%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	78.462	5.421	1836.937	.222%	94.876%
39.0	72.049	5.137	1842.074	.210%	95.141%
40.0	65.320	4.791	1846.865	.196%	95.389%
41.0	59.386	4.441	1851.306	.182%	95.618%
42.0	53.198	4.090	1855.396	.167%	95.829%
43.0	47.011	3.712	1859.108	.152%	96.021%
44.0	42.595	3.382	1862.49	.138%	96.196%
45.0	38.686	3.124	1865.614	.128%	96.357%
46.0	34.699	2.870	1868.484	.117%	96.505%
47.0	32.189	2.660	1871.144	.109%	96.643%
48.0	30.115	2.519	1873.663	.103%	96.773%
49.0	28.097	2.390	1876.053	.098%	96.896%
50.0	26.381	2.271	1878.325	.093%	97.014%
51.0	25.024	2.175	1880.5	.089%	97.126%
52.0	23.688	2.090	1882.59	.085%	97.234%
53.0	22.563	2.012	1884.602	.082%	97.338%
54.0	21.600	1.947	1886.548	.080%	97.438%
55.0	20.637	1.885	1888.434	.077%	97.536%
56.0	19.884	1.831	1890.265	.075%	97.630%
57.0	19.125	1.784	1892.048	.073%	97.722%
58.0	18.485	1.739	1893.788	.071%	97.812%
59.0	17.972	1.704	1895.492	.070%	97.900%
60.0	17.480	1.675	1897.167	.068%	97.987%
61.0	16.910	1.641	1898.808	.067%	98.072%
62.0	16.509	1.610	1900.418	.066%	98.155%
63.0	16.151	1.588	1902.007	.065%	98.237%
64.0	15.736	1.565	1903.571	.064%	98.318%
65.0	15.427	1.542	1905.114	.063%	98.397%
66.0	15.103	1.523	1906.637	.062%	98.476%
67.0	14.759	1.502	1908.138	.061%	98.553%
68.0	14.414	1.478	1909.616	.060%	98.630%
69.0	14.119	1.456	1911.072	.059%	98.705%
70.0	13.767	1.432	1912.504	.059%	98.779%
71.0	13.402	1.404	1913.908	.057%	98.851%
72.0	13.008	1.373	1915.281	.056%	98.922%
73.0	12.649	1.342	1916.623	.055%	98.992%
74.0	12.340	1.314	1917.937	.054%	99.059%
75.0	12.038	1.288	1919.225	.053%	99.126%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	11.777	1.264	1920.489	.052%	99.191%
77.0	11.559	1.244	1921.733	.051%	99.256%
78.0	11.334	1.226	1922.959	.050%	99.319%
79.0	11.102	1.206	1924.164	.049%	99.381%
80.0	10.969	1.190	1925.354	.049%	99.443%
81.0	10.934	1.184	1926.539	.048%	99.504%
82.0	10.828	1.180	1927.719	.048%	99.565%
83.0	10.688	1.170	1928.888	.048%	99.625%
84.0	10.484	1.153	1930.042	.047%	99.685%
85.0	9.745	1.104	1931.146	.045%	99.742%
86.0	9.422	1.048	1932.193	.043%	99.796%
87.0	9.176	1.018	1933.211	.042%	99.848%
88.0	8.993	0.995	1934.207	.041%	99.900%
89.0	8.831	0.977	1935.183	.040%	99.950%
90.0	8.733	0.963	1936.147	.039%	100.000%

Zonal flux distribution table

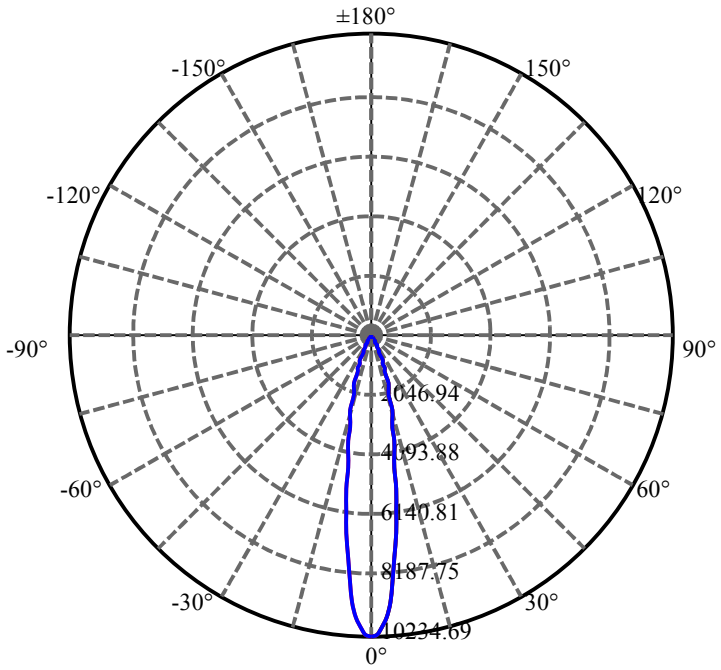
ZONAL LUMEN SUMMARY

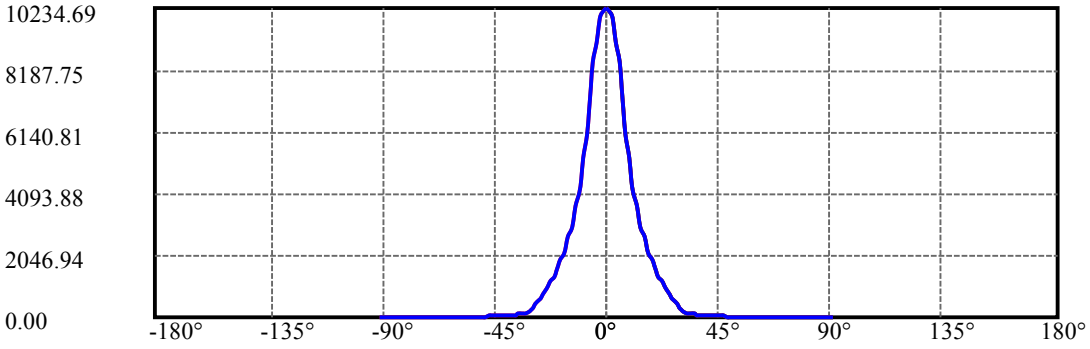
Zone	Lumens	%Lamp	%Fixt
0-30	1774.54	72.53%	91.65%
0-40	1846.87	75.49%	95.39%
0-60	1897.17	77.54%	97.99%
0-90	1935.18	79.10%	99.95%
0-120	1935.18	79.10%	99.95%
0-180	1936.15	79.14%	100.00%
60-90	39.69	1.62%	2.05%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.65	1548.92	63.31%	80.00%

ZONAL LUMEN SUMMARY

0-10	669.61
10-20	741.55
20-30	363.39
30-40	72.32
40-50	31.46
50-60	18.84
60-70	15.34
70-80	12.85
80-90	9.83
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

Light Distribution Curve [Unit:cd]





C0(Max):

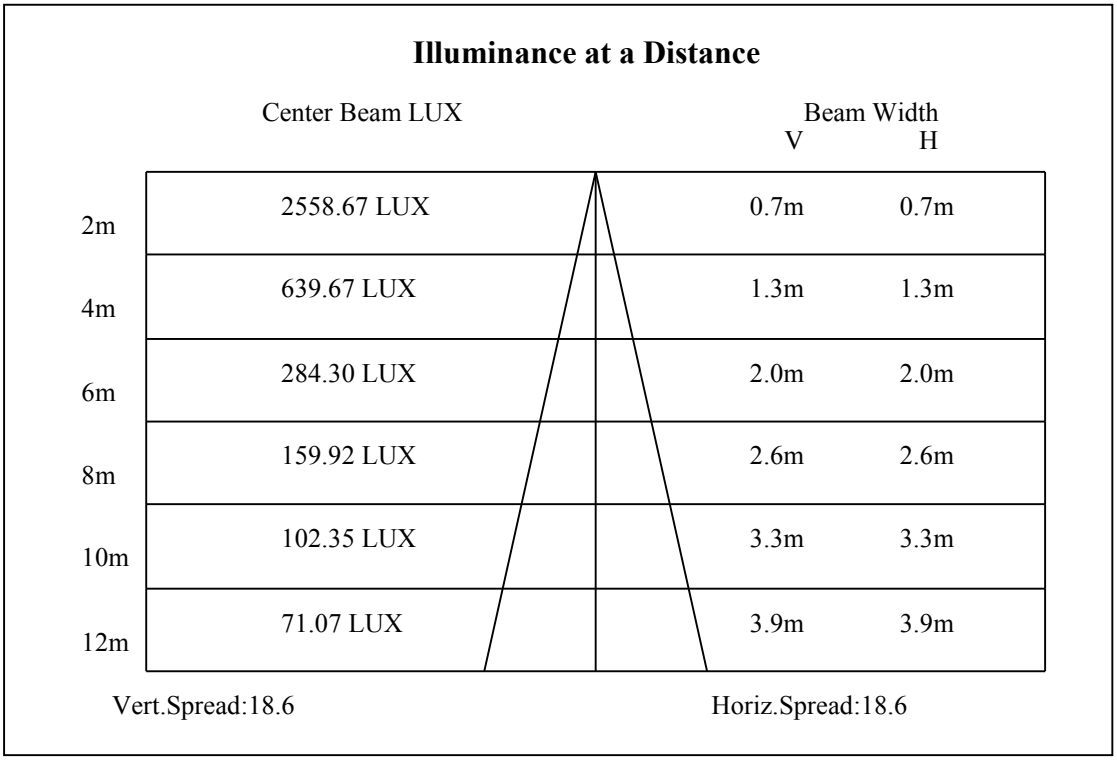
C0/C180:

C90/C270:

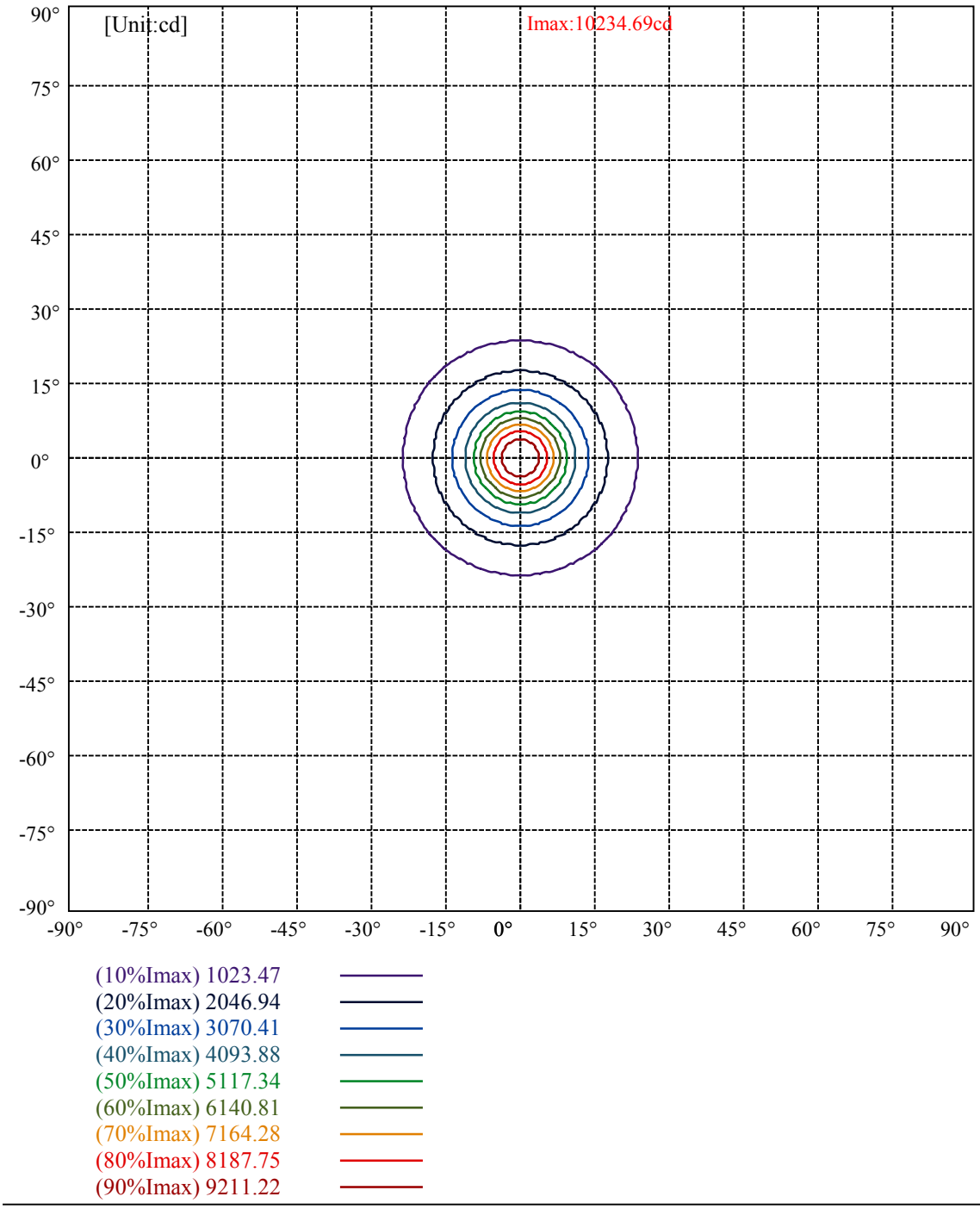
Field angle(10%Imax):C0/180Left:23.3 Right:23.3
:C90/270Left:23.3 Right:23.3

Beam Angle(50%Imax):C0/180Left:9.2 Right:9.2
:C90/270Left:9.2 Right:9.2

Lux distance Curve



ISO-Intensity(V-H)



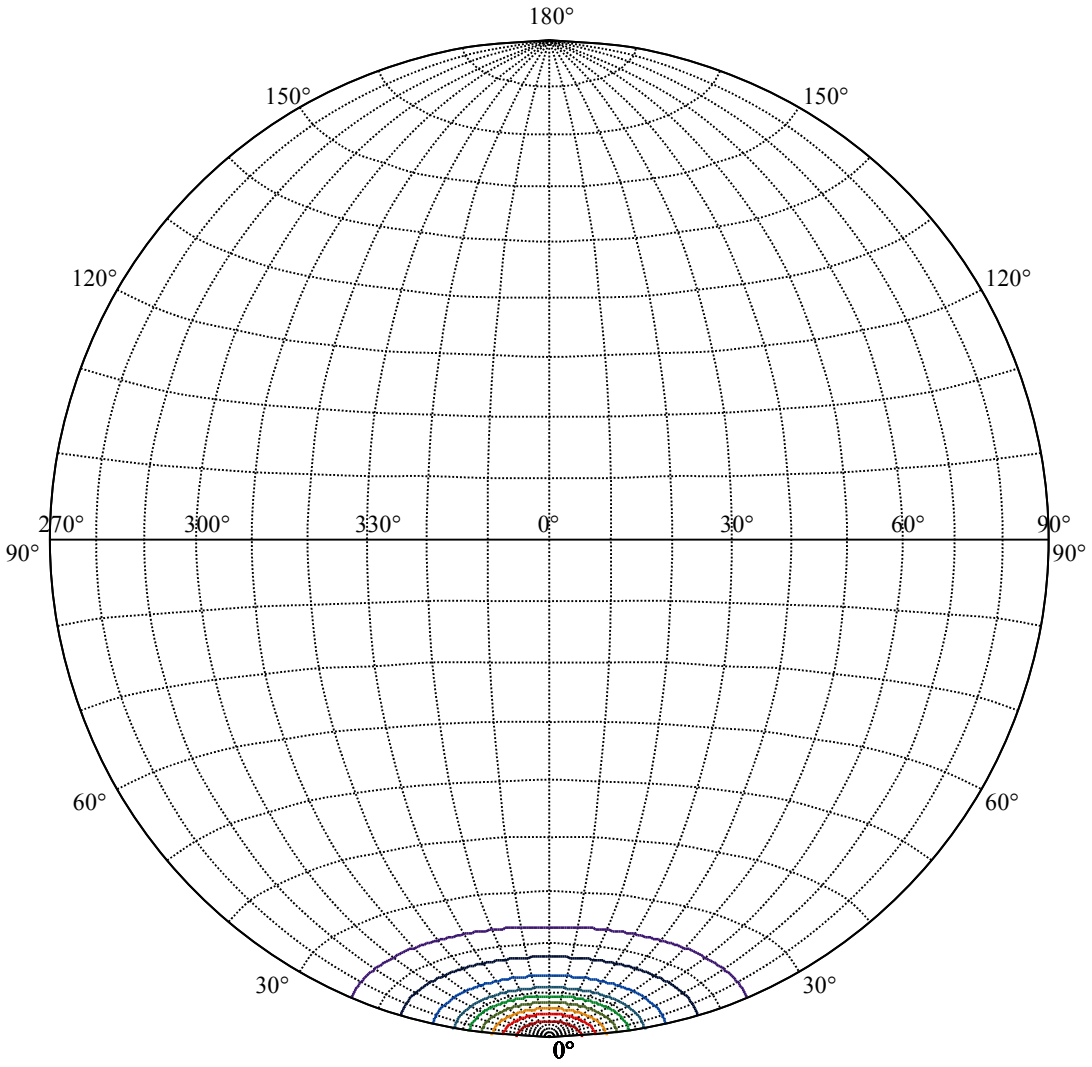
(10%Imax) 1023.47
(20%Imax) 2046.94
(30%Imax) 3070.41
(40%Imax) 4093.88
(50%Imax) 5117.34
(60%Imax) 6140.81
(70%Imax) 7164.28
(80%Imax) 8187.75
(90%Imax) 9211.22

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/08
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:10234.69

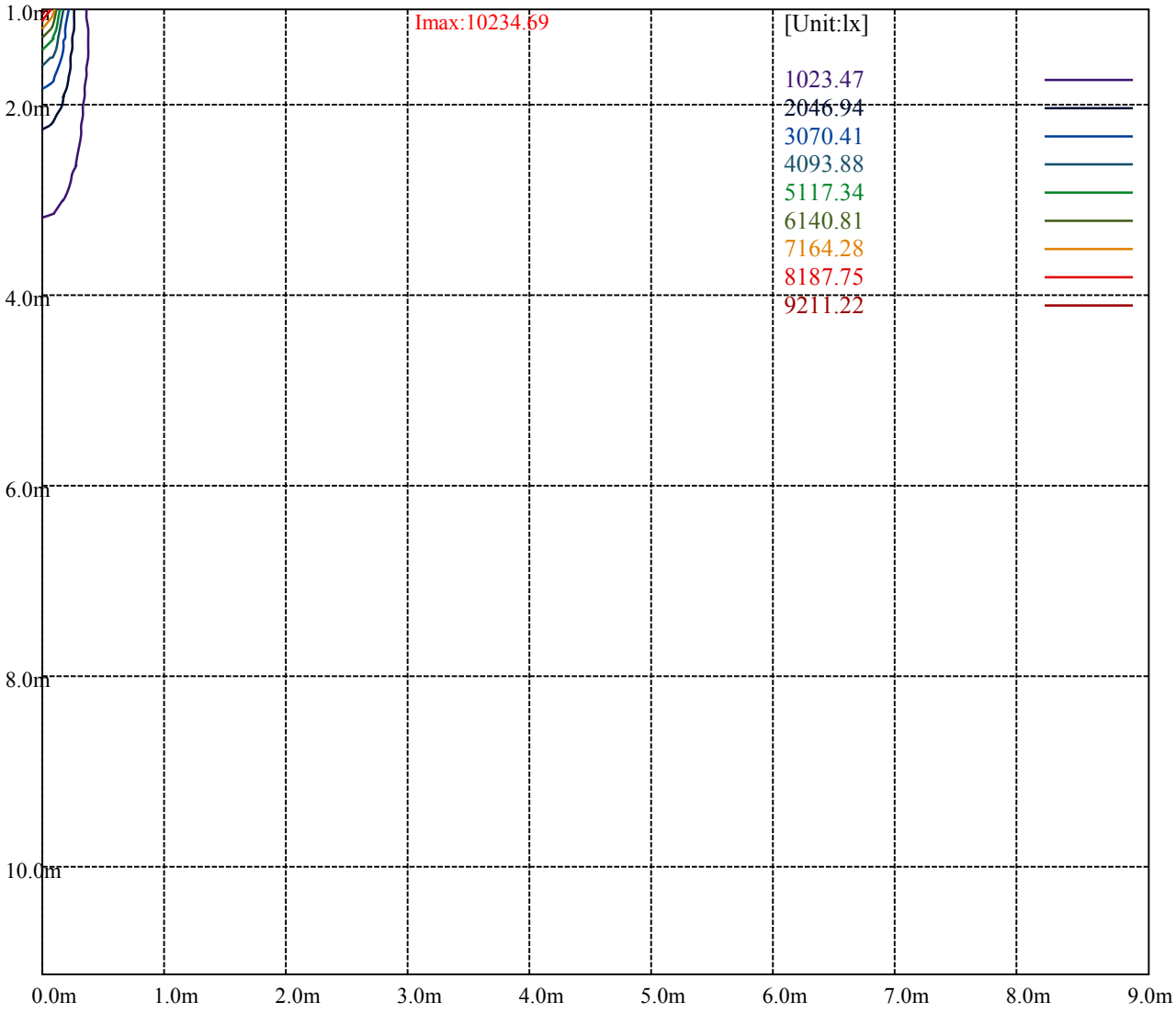
(10%Imax) 1023.47
(20%Imax) 2046.94
(30%Imax) 3070.41
(40%Imax) 4093.88
(50%Imax) 5117.34
(60%Imax) 6140.81
(70%Imax) 7164.28
(80%Imax) 8187.75
(90%Imax) 9211.22

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/08
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/08
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

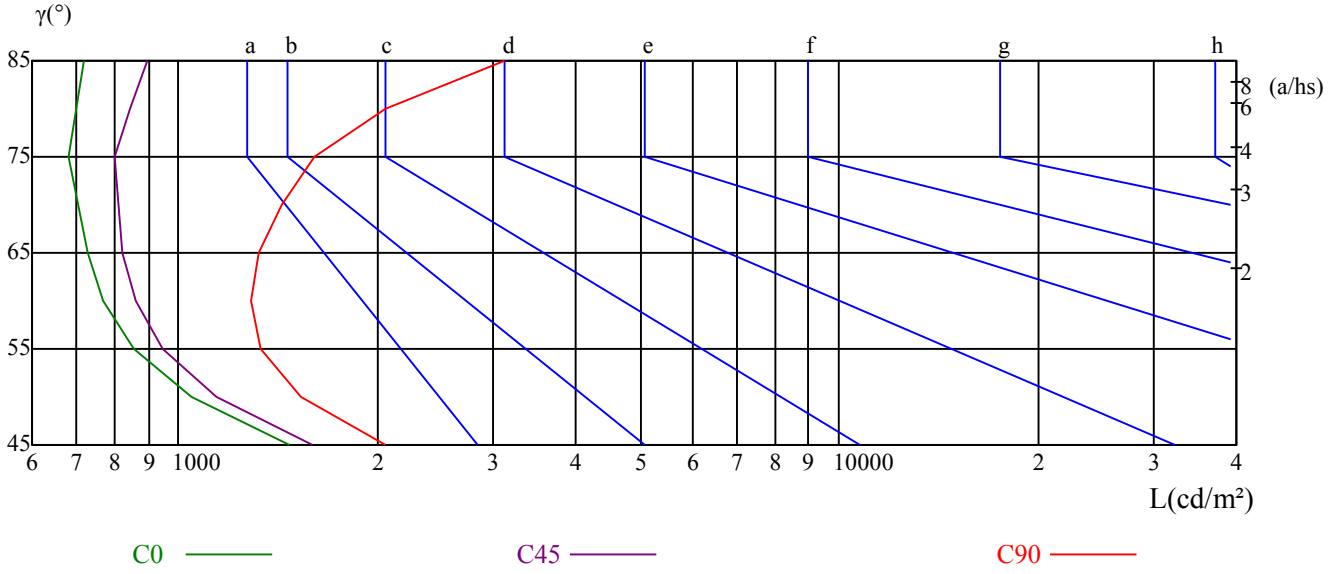
γ	45	50	55	60	65	70	75	80	85
C0	1477	1046	858	770	729	707	682	699	717
C45	1593	1140	945	859	824	812	800	842	894
C90	2061	1536	1336	1285	1324	1431	1603	2054	3111

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1423	1423	1423	1813	1813	1813	4359	4359	4359

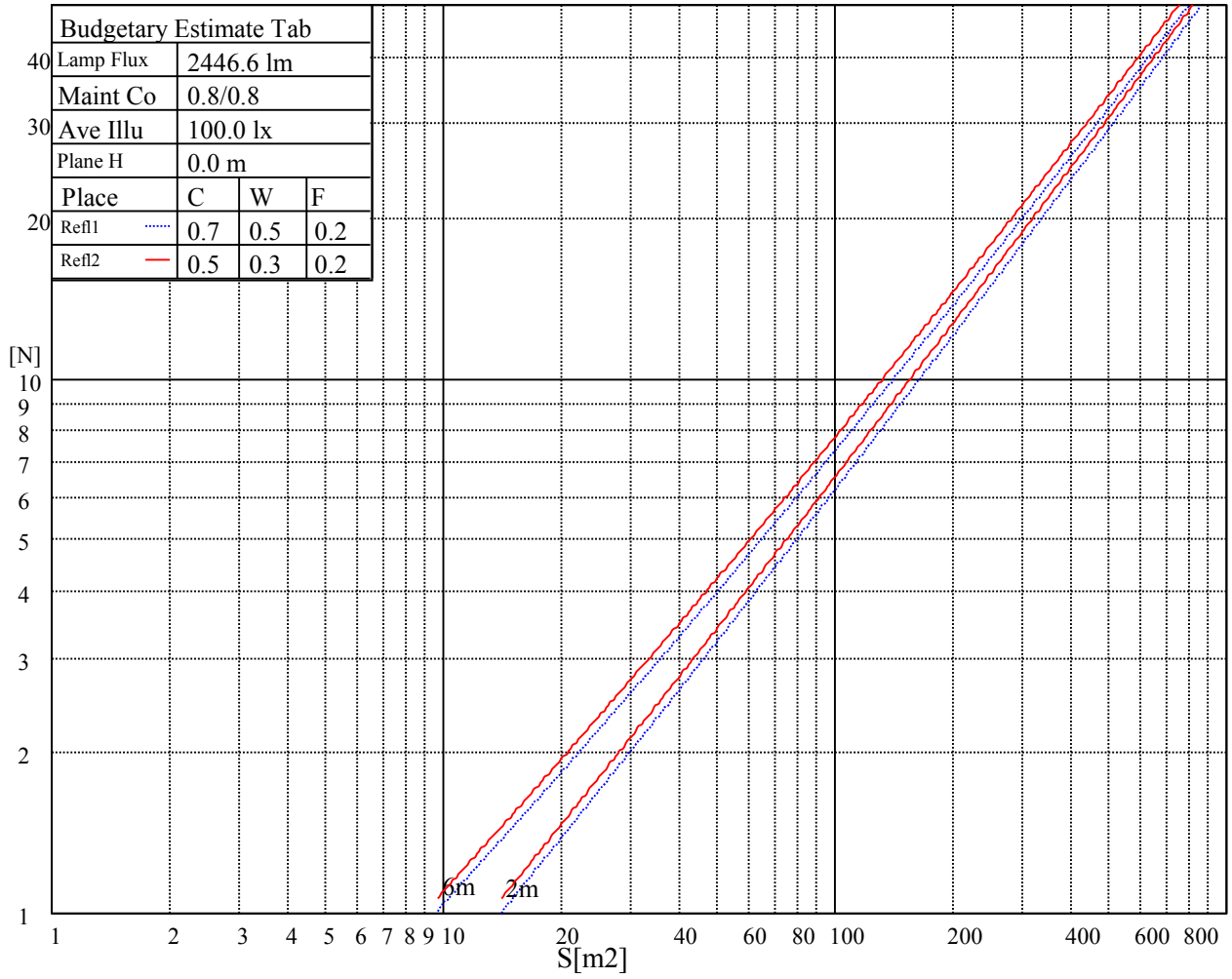
Glare Table

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 Limitting Curve



Budgetary Estimate Table

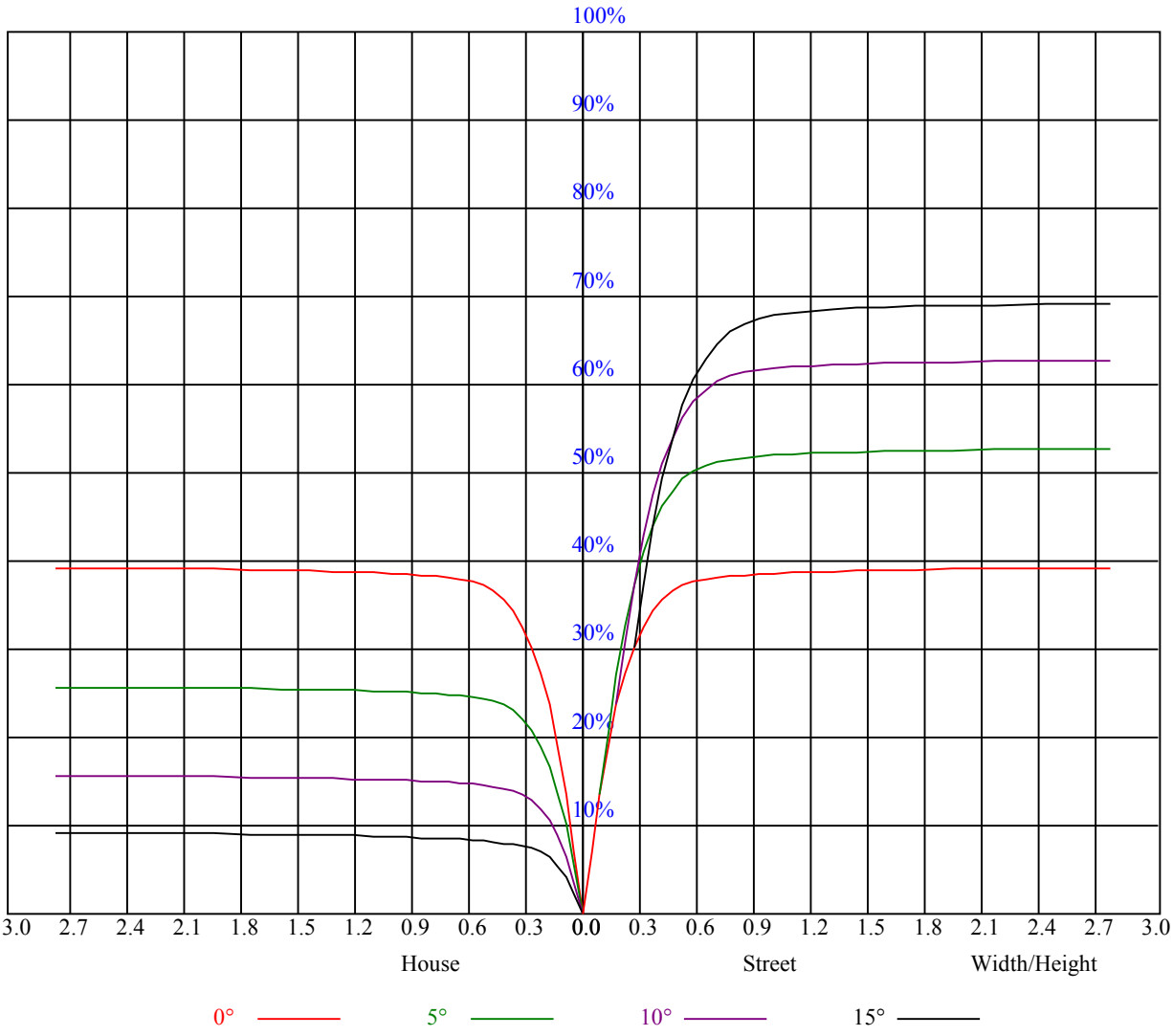


Equipment: GMS1980 Date: 2021/7/08 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Utilization factor table for indoor luminaire

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	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	0.94	0.94	0.94	0.92	0.92	0.92	0.88	0.88	0.88	0.84	0.84	0.84	0.81	0.81	0.81	0.79
1	0.89	0.87	0.86	0.87	0.86	0.84	0.84	0.83	0.82	0.81	0.80	0.79	0.78	0.78	0.77	0.76
2	0.84	0.82	0.79	0.83	0.80	0.78	0.80	0.78	0.77	0.78	0.76	0.75	0.76	0.75	0.74	0.72
3	0.80	0.77	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.75	0.73	0.72	0.74	0.72	0.71	0.70
4	0.77	0.73	0.71	0.76	0.73	0.70	0.74	0.72	0.70	0.73	0.71	0.69	0.72	0.70	0.68	0.67
5	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.69	0.67	0.66	0.65
6	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.67	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.63
7	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.66	0.63	0.62	0.61
8	0.66	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.60	0.59
9	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.57
10	0.62	0.59	0.57	0.62	0.59	0.57	0.62	0.59	0.57	0.61	0.58	0.57	0.61	0.58	0.56	0.56

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/7/08	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	10222.88	10278.00	10189.13	9952.88	9594.56	9081.56	8265.94	7512.75	6725.25
45.0	10264.50	10160.44	9884.81	9572.06	8967.94	8331.19	7493.06	6594.19	5832.00
90.0	10202.06	10026.00	9713.81	9159.75	8570.81	7887.94	6886.69	6095.81	5382.00
135.0	10249.31	10138.50	9862.31	9483.19	8888.06	8254.69	7404.19	6501.38	5760.00
180.0	10222.88	10036.13	9717.75	9212.63	8532.56	7821.00	6946.31	6066.00	5360.63
225.0	10264.50	10242.56	10035.56	9592.88	9189.00	8601.75	7639.31	6980.63	6220.69
270.0	10202.06	10249.88	10148.63	9898.31	9477.00	8961.19	8308.69	7408.69	6641.44
315.0	10249.31	10249.88	10088.44	9731.25	9291.94	8715.94	7925.63	7057.69	6288.75
360.0	10222.88	10278.00	10189.13	9952.88	9594.56	9081.56	8265.94	7512.75	6725.25

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5783.63	5111.44	4528.69	4033.13	3517.88	3165.19	2860.31	2552.06	2279.81
45.0	5071.50	4418.44	3931.31	3521.25	3091.50	2792.81	2523.38	2265.75	2026.13
90.0	4761.00	4113.00	3690.00	3324.94	2928.94	2648.81	2397.38	2144.81	1910.25
135.0	5017.50	4378.50	3908.81	3556.69	3096.00	2802.38	2573.44	2283.75	2039.06
180.0	4749.75	4119.75	3699.00	3341.81	2949.75	2672.44	2423.81	2175.19	1947.38
225.0	5430.94	4761.00	4258.13	3778.31	3363.75	3040.31	2755.69	2466.56	2210.06
270.0	5904.56	5090.63	4546.13	4078.69	3577.50	3233.81	2925.00	2615.06	2340.00
315.0	5571.56	4782.94	4255.88	3810.94	3341.25	3016.69	2731.50	2446.88	2187.00
360.0	5783.63	5111.44	4528.69	4033.13	3517.88	3165.19	2860.31	2552.06	2279.81

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2066.06	1848.38	1653.19	1493.44	1327.50	1191.94	1040.63	891.00	763.88
45.0	1831.50	1630.13	1449.56	1293.75	1143.00	1008.56	862.31	731.25	609.75
90.0	1720.69	1524.94	1367.44	1099.80	1048.44	918.11	776.81	645.69	536.74
135.0	1861.31	1635.19	1449.56	1308.38	1140.75	1002.38	881.44	715.50	599.06
180.0	1758.94	1565.44	1406.81	1203.75	1095.53	965.31	826.48	694.35	583.03
225.0	1980.00	1797.19	1626.75	1428.75	1289.25	1117.01	1001.48	855.84	734.23
270.0	2121.19	1899.00	1699.88	1532.81	1361.81	1227.94	1075.50	927.00	797.06
315.0	1978.31	1773.00	1604.81	1427.06	1268.44	1113.98	981.23	835.37	711.23
360.0	2066.06	1848.38	1653.19	1493.44	1327.50	1191.94	1040.63	891.00	763.88

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	641.81	501.75	403.31	321.19	292.50	177.75	138.49	114.24	100.97
45.0	506.81	388.13	303.75	285.75	165.09	129.43	109.97	99.45	91.91
90.0	436.89	331.43	258.92	198.62	148.05	119.98	107.27	98.49	91.69
135.0	491.63	374.06	294.75	285.75	163.07	129.71	111.66	101.36	93.49
180.0	480.21	366.41	288.39	223.88	160.88	127.58	110.03	98.83	92.48
225.0	617.18	480.32	384.47	303.02	227.64	168.92	132.02	111.54	101.76
270.0	674.44	532.13	430.31	345.94	290.25	198.28	152.04	119.81	104.51
315.0	594.39	460.13	365.34	288.28	216.90	162.00	128.03	108.06	97.48
360.0	641.81	501.75	403.31	321.19	292.50	177.75	138.49	114.24	100.97

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	93.60	87.24	81.56	75.32	69.02	63.06	56.42	50.12	45.23
45.0	86.06	80.27	75.04	68.74	62.61	56.64	50.40	45.06	40.89
90.0	86.01	79.71	74.03	67.61	60.41	54.84	49.39	43.59	39.83
135.0	88.03	81.28	75.77	69.47	62.94	56.87	50.29	44.72	40.56
180.0	86.79	79.71	74.98	68.34	60.69	55.41	49.84	43.20	39.60
225.0	95.23	88.65	83.19	76.61	69.92	63.62	57.49	50.79	45.96
270.0	96.92	89.78	83.81	77.46	70.54	64.35	57.43	51.08	46.18
315.0	90.96	84.88	79.31	72.84	66.43	60.30	54.34	47.53	42.53
360.0	93.60	87.24	81.56	75.32	69.02	63.06	56.42	50.12	45.23

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	40.50	35.89	32.79	30.38	28.13	26.27	24.81	23.40	22.16
45.0	37.41	33.75	31.61	29.81	28.18	26.38	25.09	23.85	22.67
90.0	36.56	33.36	31.39	29.59	27.84	26.27	25.03	23.79	22.73
135.0	36.90	33.41	31.11	29.25	27.39	25.76	24.47	23.23	22.11
180.0	36.17	32.40	30.49	28.63	26.83	25.20	23.96	22.73	21.66
225.0	41.74	37.41	34.54	32.23	30.04	28.18	26.66	25.26	24.08
270.0	41.68	37.13	34.09	31.67	29.25	27.39	25.93	24.41	23.18
315.0	38.53	34.26	31.50	29.36	27.11	25.59	24.24	22.84	21.94
360.0	40.50	35.89	32.79	30.38	28.13	26.27	24.81	23.40	22.16

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	21.21	20.19	19.41	18.56	17.83	17.33	16.76	16.26	15.86
45.0	21.77	20.87	20.14	19.35	18.90	18.34	17.83	17.27	16.82
90.0	21.83	20.93	20.19	19.52	18.96	18.39	17.89	17.33	16.93
135.0	21.21	20.25	19.52	18.84	18.23	17.72	17.21	16.71	16.31
180.0	20.70	19.80	19.13	18.34	17.72	17.27	16.88	16.37	16.03
225.0	23.06	22.05	21.21	20.42	19.74	19.18	18.68	18.06	17.61
270.0	22.16	21.15	20.31	19.52	18.79	18.23	17.72	17.04	16.59
315.0	20.87	19.86	19.18	18.45	17.72	17.33	16.88	16.26	15.92
360.0	21.21	20.19	19.41	18.56	17.83	17.33	16.76	16.26	15.86

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	15.53	15.13	14.85	14.57	14.23	13.95	13.67	13.33	13.05
45.0	16.43	16.03	15.69	15.36	15.08	14.74	14.46	14.12	13.67
90.0	16.59	16.20	15.86	15.53	15.19	14.91	14.57	14.12	13.84
135.0	15.98	15.58	15.30	14.96	14.63	14.29	13.95	13.61	13.16
180.0	15.69	15.24	14.91	14.57	14.23	13.89	13.61	13.33	12.88
225.0	17.27	16.82	16.48	16.14	15.75	15.30	14.96	14.57	14.23
270.0	16.20	15.75	15.41	15.13	14.74	14.34	14.06	13.73	13.39
315.0	15.53	15.13	14.91	14.57	14.23	13.89	13.67	13.33	12.99
360.0	15.53	15.13	14.85	14.57	14.23	13.95	13.67	13.33	13.05

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	12.71	12.32	12.04	11.64	11.36	11.14	10.91	10.69	10.46
45.0	13.33	12.99	12.66	12.43	12.09	11.81	11.53	11.31	11.08
90.0	13.44	13.05	12.83	12.60	12.43	12.32	12.21	12.15	12.49
135.0	12.77	12.43	12.09	11.76	11.53	11.31	11.08	10.80	10.63
180.0	12.43	12.09	11.76	11.48	11.19	10.97	10.69	10.46	10.18
225.0	13.78	13.44	13.11	12.83	12.49	12.21	11.98	11.70	11.53
270.0	12.99	12.60	12.26	11.93	11.70	11.53	11.31	11.08	10.91
315.0	12.60	12.26	11.98	11.64	11.42	11.19	10.97	10.63	10.46
360.0	12.71	12.32	12.04	11.64	11.36	11.14	10.91	10.69	10.46

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	10.24	10.07	9.90	9.73	9.56	9.34	9.06	8.83	8.66
45.0	10.91	10.74	10.58	10.41	10.18	9.90	9.62	9.45	9.23
90.0	13.67	14.12	14.34	14.06	10.07	9.73	9.51	9.34	9.17
135.0	10.46	10.29	10.13	9.96	9.23	8.94	8.72	8.49	8.38
180.0	10.01	9.79	9.56	9.34	9.11	8.89	8.66	8.49	8.38
225.0	11.25	11.03	10.74	10.58	10.41	10.24	10.01	9.84	9.68
270.0	10.69	10.46	10.35	10.07	9.84	9.17	8.94	8.78	8.61
315.0	10.24	10.13	9.90	9.73	9.56	9.17	8.89	8.72	8.55
360.0	10.24	10.07	9.90	9.73	9.56	9.34	9.06	8.83	8.66

Intensity data(cd)

C/γ(°)	90.0
0.0	8.49
45.0	9.23
90.0	9.23
135.0	8.38
180.0	8.38
225.0	9.45
270.0	8.33
315.0	8.38
360.0	8.49