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Nata

LumCAT: LN01D03517EE-N
Luminaire: 92.70.307.00
Report No: 210518-B005
Test No: 210518-C005
LampCAT: CREE CXA1304 LES6
Lamp flux(lm): 738.2
Number of Lamps: 1
Length(mm): 74
Phm Type: C

Voltage(V): 221.1000
Current(A): 0.0800
Power (W): 8.9000
PF: 0.5070
Ballast type: DC
Width(mm): 74
Height(mm): 56

Photometric Results

Lumens(lm): 493.76
Efficiency(%): 66.89%
Lumens(lm)/Power(W): 55.48
Central intensity(cd): 1814.203
Maximum intensity(cd): 1814.203
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=22.7
[C90/270]Total=22.7
Field angle(10%Imax): [C0/180]Total=49.3
[C90/270]Total=49.3
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
Maximum s/h(1/4): C0_180=0.41 C90_270=0.41
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 66.89%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 93.406%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1814.203	0.000	0	.000%	.000%
1.0	1806.047	1.732	1.732	.235%	.351%
2.0	1772.578	5.136	6.869	.696%	1.391%
3.0	1719.773	8.353	15.221	1.131%	3.083%
4.0	1652.625	11.288	26.51	1.529%	5.369%
5.0	1556.346	13.805	40.314	1.870%	8.165%
6.0	1472.709	15.918	56.233	2.156%	11.389%
7.0	1365.089	17.614	73.847	2.386%	14.956%
8.0	1259.677	18.785	92.632	2.545%	18.761%
9.0	1152.373	19.548	112.18	2.648%	22.720%
10.0	1026.738	19.720	131.901	2.671%	26.714%
11.0	939.516	19.647	151.548	2.661%	30.693%
12.0	843.848	19.495	171.042	2.641%	34.641%
13.0	733.303	18.717	189.759	2.535%	38.432%
14.0	661.760	17.857	207.616	2.419%	42.048%
15.0	588.635	17.166	224.782	2.325%	45.525%
16.0	516.227	16.189	240.971	2.193%	48.804%
17.0	459.309	15.192	256.163	2.058%	51.880%
18.0	403.341	14.223	270.386	1.927%	54.761%
19.0	357.546	13.238	283.624	1.793%	57.442%
20.0	316.125	12.330	295.954	1.670%	59.939%
21.0	278.473	11.417	307.371	1.547%	62.252%
22.0	246.769	10.555	317.926	1.430%	64.389%
23.0	220.795	9.811	327.737	1.329%	66.376%
24.0	196.530	9.124	336.861	1.236%	68.224%
25.0	174.108	8.428	345.289	1.142%	69.931%
26.0	157.430	7.826	353.115	1.060%	71.516%
27.0	141.806	7.321	360.436	.992%	72.999%
28.0	127.385	6.815	367.251	.923%	74.379%
29.0	115.474	6.354	373.605	.861%	75.666%
30.0	105.827	5.975	379.58	.809%	76.876%
31.0	96.061	5.618	385.198	.761%	78.014%
32.0	87.012	5.245	390.443	.710%	79.076%
33.0	79.636	4.910	395.353	.665%	80.070%
34.0	72.527	4.605	399.958	.624%	81.003%
35.0	66.656	4.323	404.28	.586%	81.878%
36.0	60.982	4.064	408.344	.551%	82.702%
37.0	55.898	3.812	412.156	.516%	83.474%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	51.609	3.588	415.745	.486%	84.200%
39.0	47.419	3.380	419.125	.458%	84.885%
40.0	43.777	3.181	422.305	.431%	85.529%
41.0	40.887	3.015	425.32	.408%	86.140%
42.0	37.884	2.862	428.182	.388%	86.719%
43.0	35.023	2.701	430.883	.366%	87.266%
44.0	32.759	2.558	433.441	.347%	87.784%
45.0	30.579	2.434	435.875	.330%	88.277%
46.0	28.470	2.309	438.184	.313%	88.745%
47.0	26.670	2.193	440.377	.297%	89.189%
48.0	25.010	2.089	442.466	.283%	89.612%
49.0	23.323	1.985	444.451	.269%	90.014%
50.0	21.713	1.878	446.329	.254%	90.395%
51.0	20.447	1.784	448.113	.242%	90.756%
52.0	19.329	1.707	449.819	.231%	91.102%
53.0	18.253	1.635	451.454	.221%	91.433%
54.0	17.283	1.566	453.021	.212%	91.750%
55.0	16.355	1.502	454.522	.203%	92.054%
56.0	15.553	1.442	455.964	.195%	92.346%
57.0	14.759	1.386	457.35	.188%	92.627%
58.0	13.999	1.330	458.68	.180%	92.896%
59.0	13.395	1.281	459.96	.173%	93.155%
60.0	12.825	1.239	461.199	.168%	93.406%
61.0	12.305	1.199	462.398	.162%	93.649%
62.0	12.016	1.172	463.57	.159%	93.886%
63.0	11.869	1.162	464.732	.157%	94.122%
64.0	11.820	1.162	465.894	.157%	94.357%
65.0	11.890	1.173	467.068	.159%	94.595%
66.0	11.974	1.191	468.258	.161%	94.836%
67.0	12.241	1.218	469.476	.165%	95.083%
68.0	12.558	1.256	470.732	.170%	95.337%
69.0	12.952	1.301	472.034	.176%	95.601%
70.0	13.359	1.351	473.385	.183%	95.874%
71.0	13.880	1.408	474.793	.191%	96.159%
72.0	14.048	1.452	476.245	.197%	96.453%
73.0	14.077	1.471	477.716	.199%	96.751%
74.0	14.091	1.481	479.196	.201%	97.051%
75.0	13.992	1.484	480.68	.201%	97.352%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.781	1.474	482.154	.200%	97.650%
77.0	13.584	1.459	483.614	.198%	97.946%
78.0	13.057	1.426	485.04	.193%	98.235%
79.0	11.995	1.346	486.386	.182%	98.507%
80.0	10.315	1.203	487.588	.163%	98.751%
81.0	9.028	1.046	488.635	.142%	98.963%
82.0	8.065	0.927	489.561	.126%	99.150%
83.0	7.277	0.834	490.395	.113%	99.319%
84.0	6.609	0.757	491.152	.102%	99.473%
85.0	5.351	0.653	491.805	.088%	99.605%
86.0	4.155	0.520	492.324	.070%	99.710%
87.0	3.305	0.408	492.733	.055%	99.793%
88.0	3.185	0.356	493.088	.048%	99.865%
89.0	3.038	0.341	493.429	.046%	99.934%
90.0	2.925	0.327	493.756	.044%	100.000%

Zonal flux distribution table

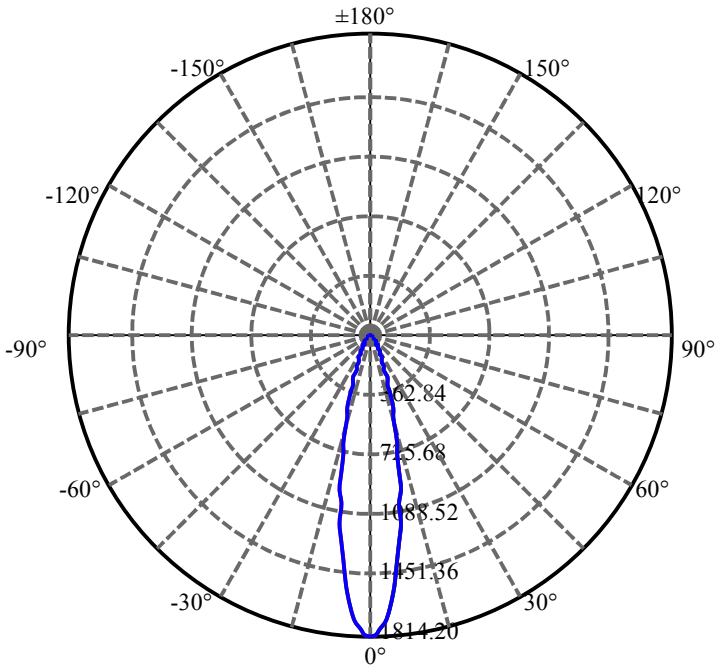
ZONAL LUMEN SUMMARY

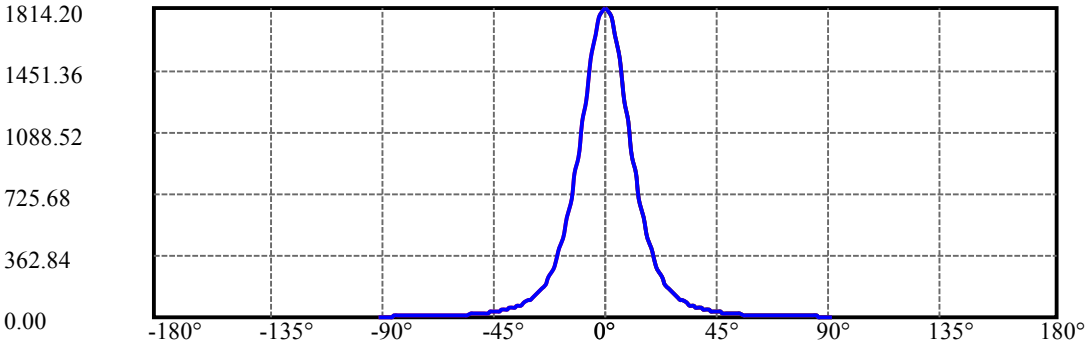
Zone	Lumens	%Lamp	%Fixt
0-30	379.58	51.42%	76.88%
0-40	422.31	57.21%	85.53%
0-60	461.20	62.48%	93.41%
0-90	493.43	66.84%	99.93%
0-120	493.43	66.84%	99.93%
0-180	493.76	66.89%	100.00%
60-90	33.47	4.53%	6.78%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-32.93	395.00	53.51%	80.00%

ZONAL LUMEN SUMMARY

0-10	131.90
10-20	164.05
20-30	83.63
30-40	42.73
40-50	24.02
50-60	14.87
60-70	12.19
70-80	14.20
80-90	5.84
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:24.7 Right:24.7
:C90/270Left:24.7 Right:24.7

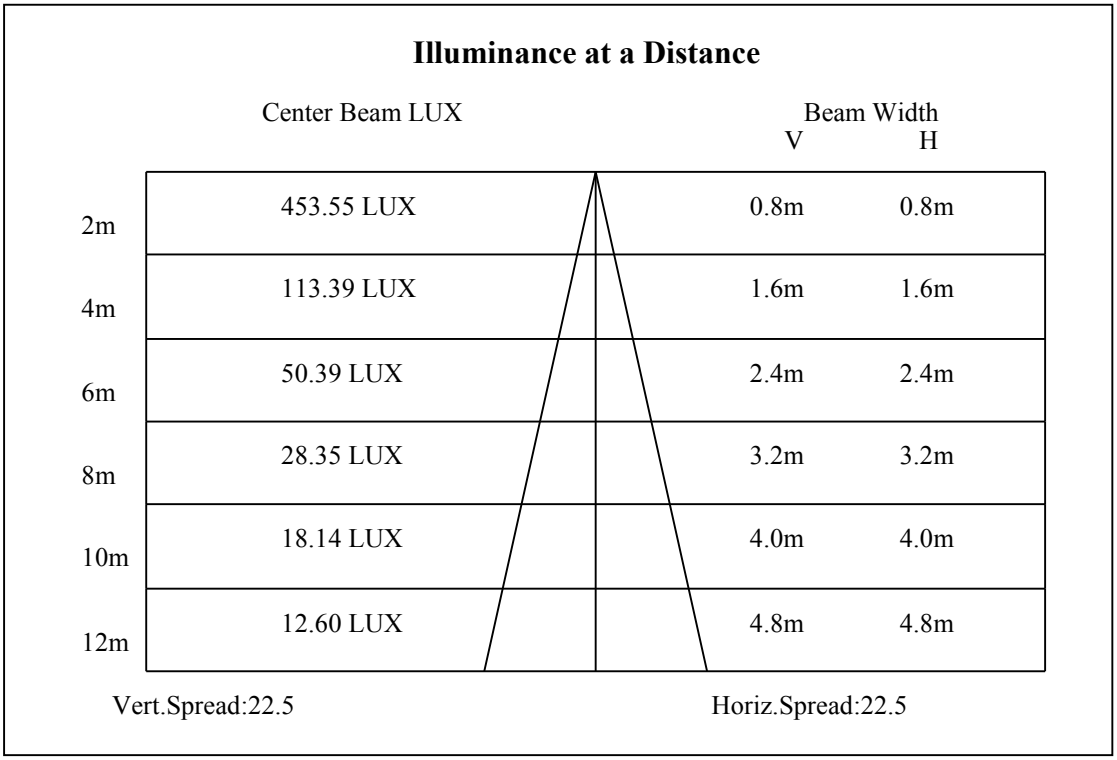
Beam Angle(50%Imax):C0/180Left:11.3 Right:11.3
:C90/270Left:11.3 Right:11.3

Equipment: GMS1980
Temperature(°C): 25.0

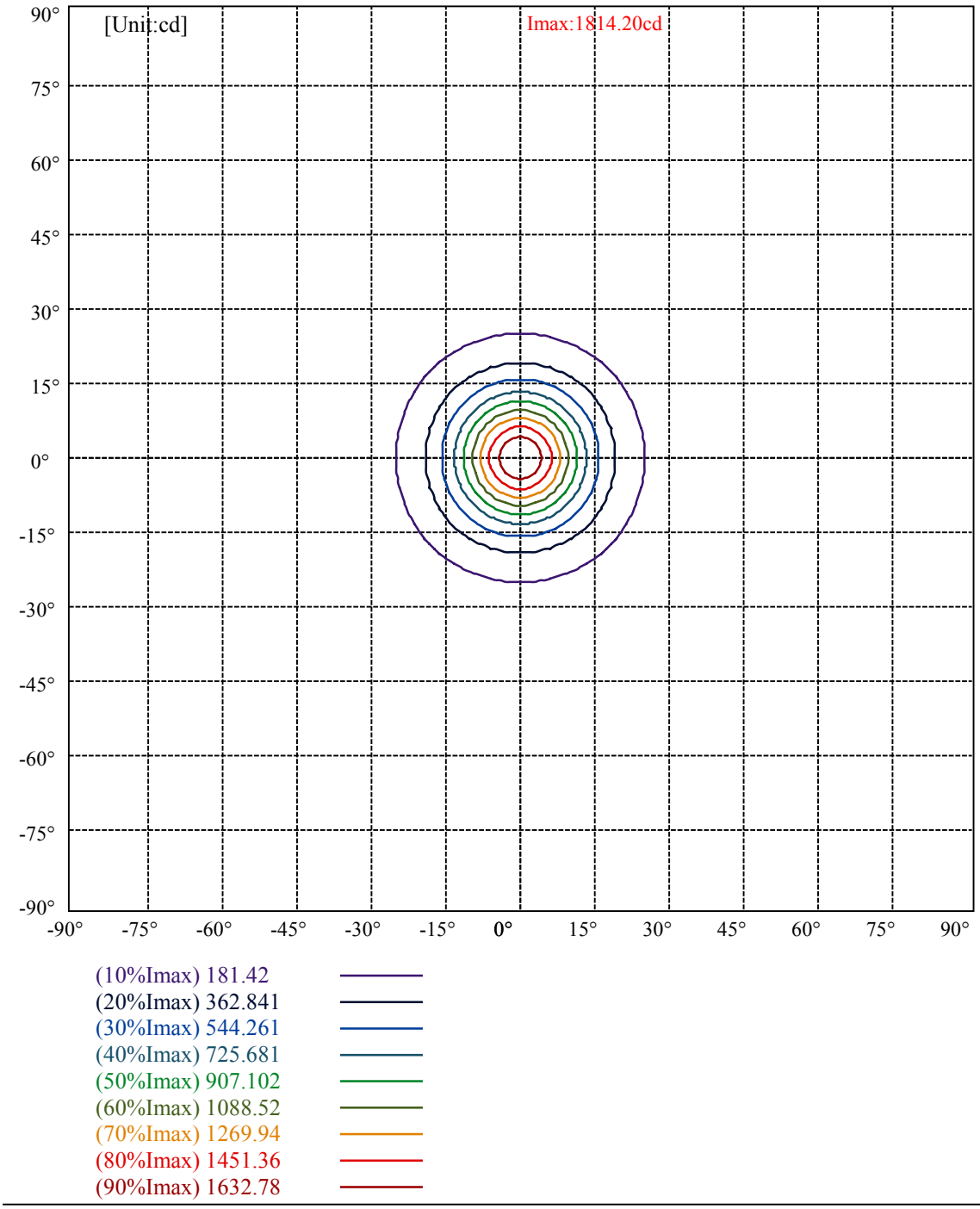
Date: 2021/05/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Lux distance Curve



ISO-Intensity(V-H)



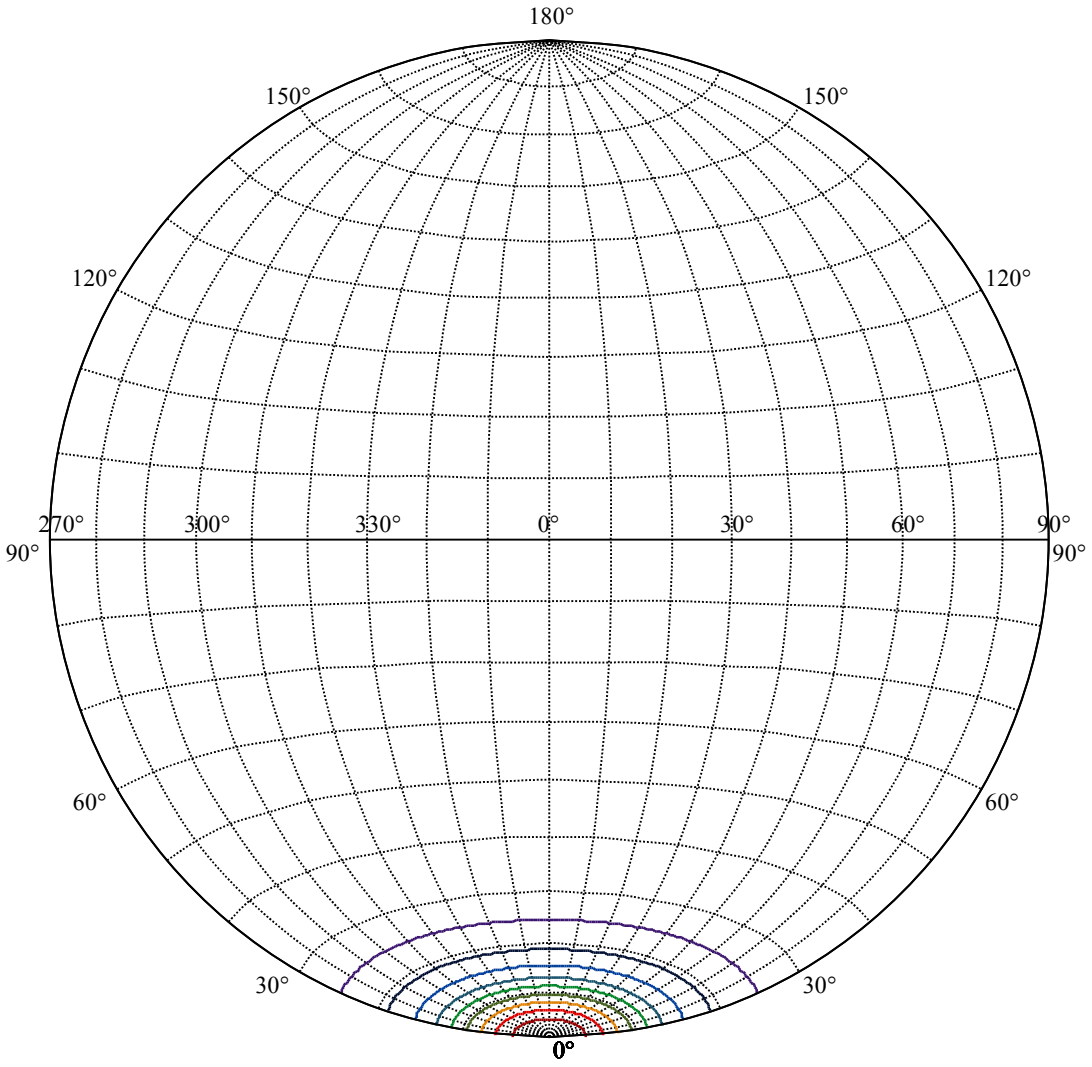
(10%Imax) 181.42
(20%Imax) 362.841
(30%Imax) 544.261
(40%Imax) 725.681
(50%Imax) 907.102
(60%Imax) 1088.52
(70%Imax) 1269.94
(80%Imax) 1451.36
(90%Imax) 1632.78

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web

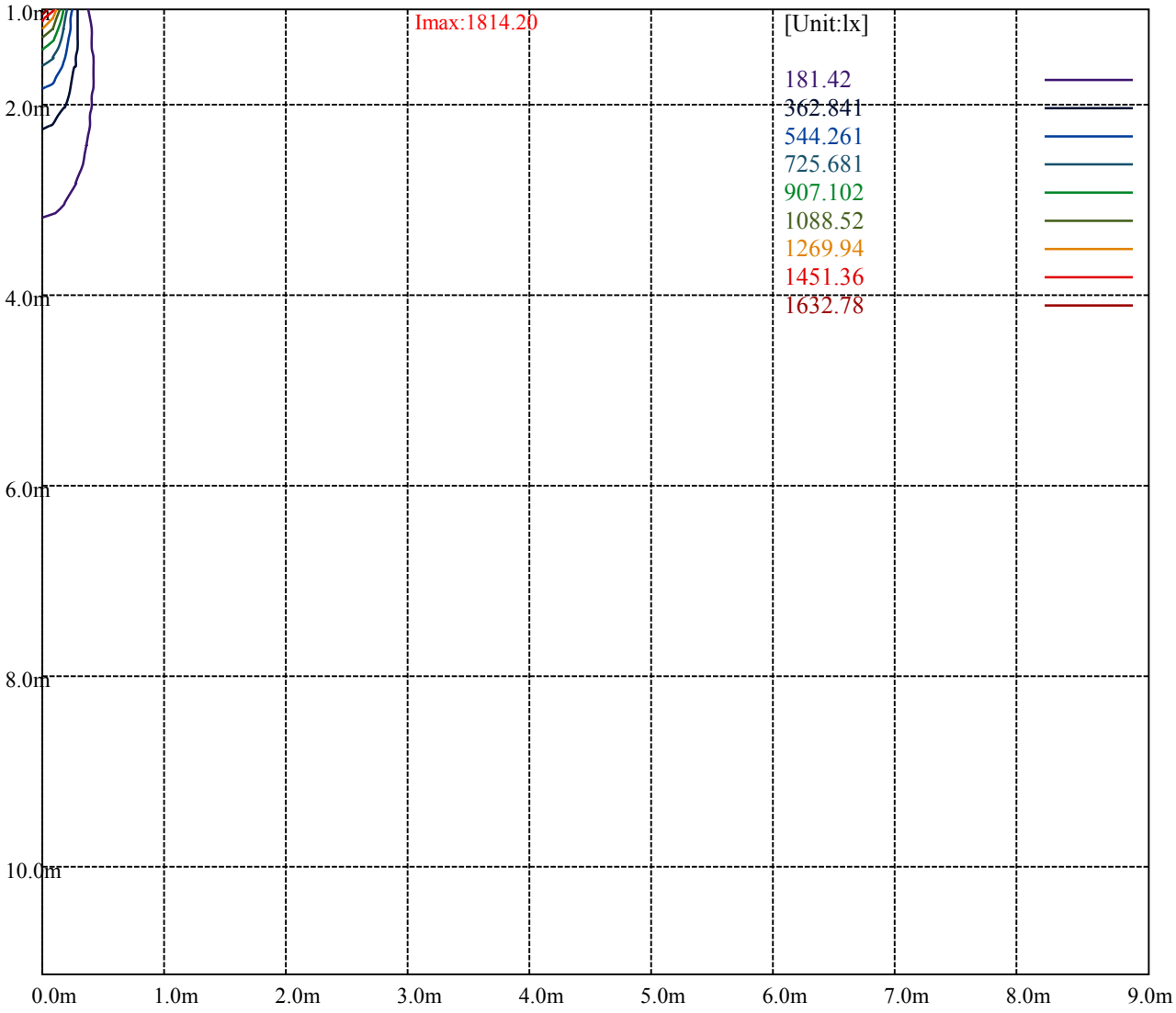


House [Unit:cd] Road

Imax:1814.20

(10%Imax) 181.42
(20%Imax) 362.841
(30%Imax) 544.261
(40%Imax) 725.681
(50%Imax) 907.102
(60%Imax) 1088.52
(70%Imax) 1269.94
(80%Imax) 1451.36
(90%Imax) 1632.78

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/05/18
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Nata LN01D03517EE-N

Luminance Limitting Curve(no luminous side)

Luminance Table

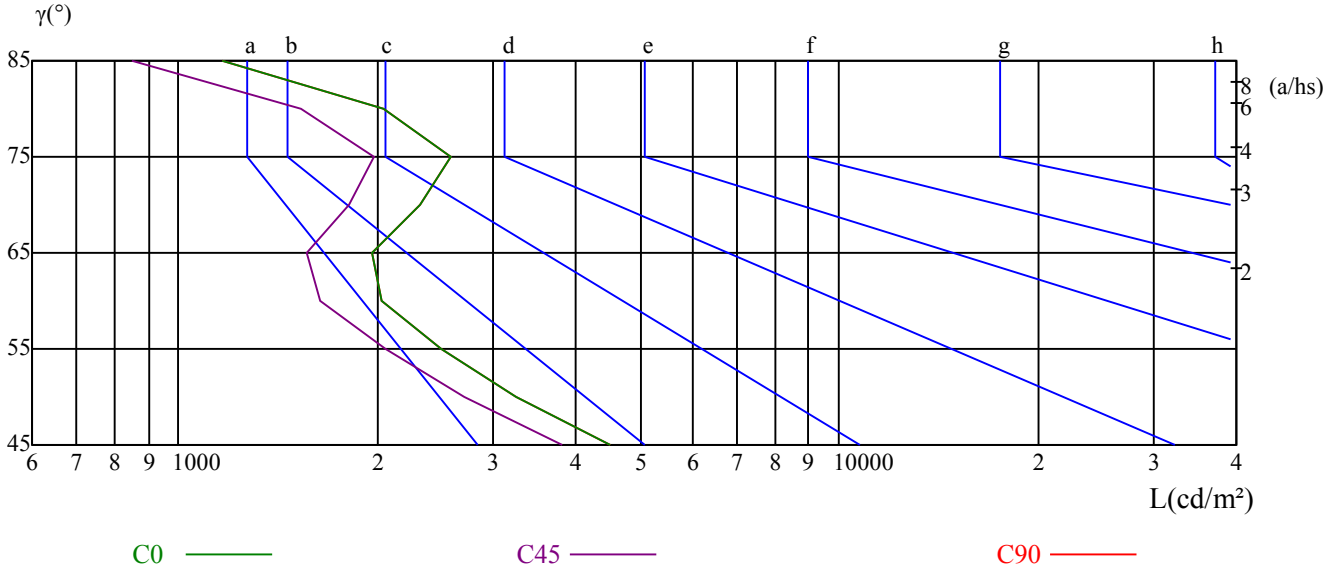
γ	45	50	55	60	65	70	75	80	85
C0	4495	3243	2502	2027	1959	2317	2582	2050	1162
C45	3815	2711	2059	1641	1559	1810	1977	1534	847
C90	4495	3243	2502	2027	1959	2317	2582	2050	1162

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5138	5138	5138	9872	9872	9872	11211	11211	11211

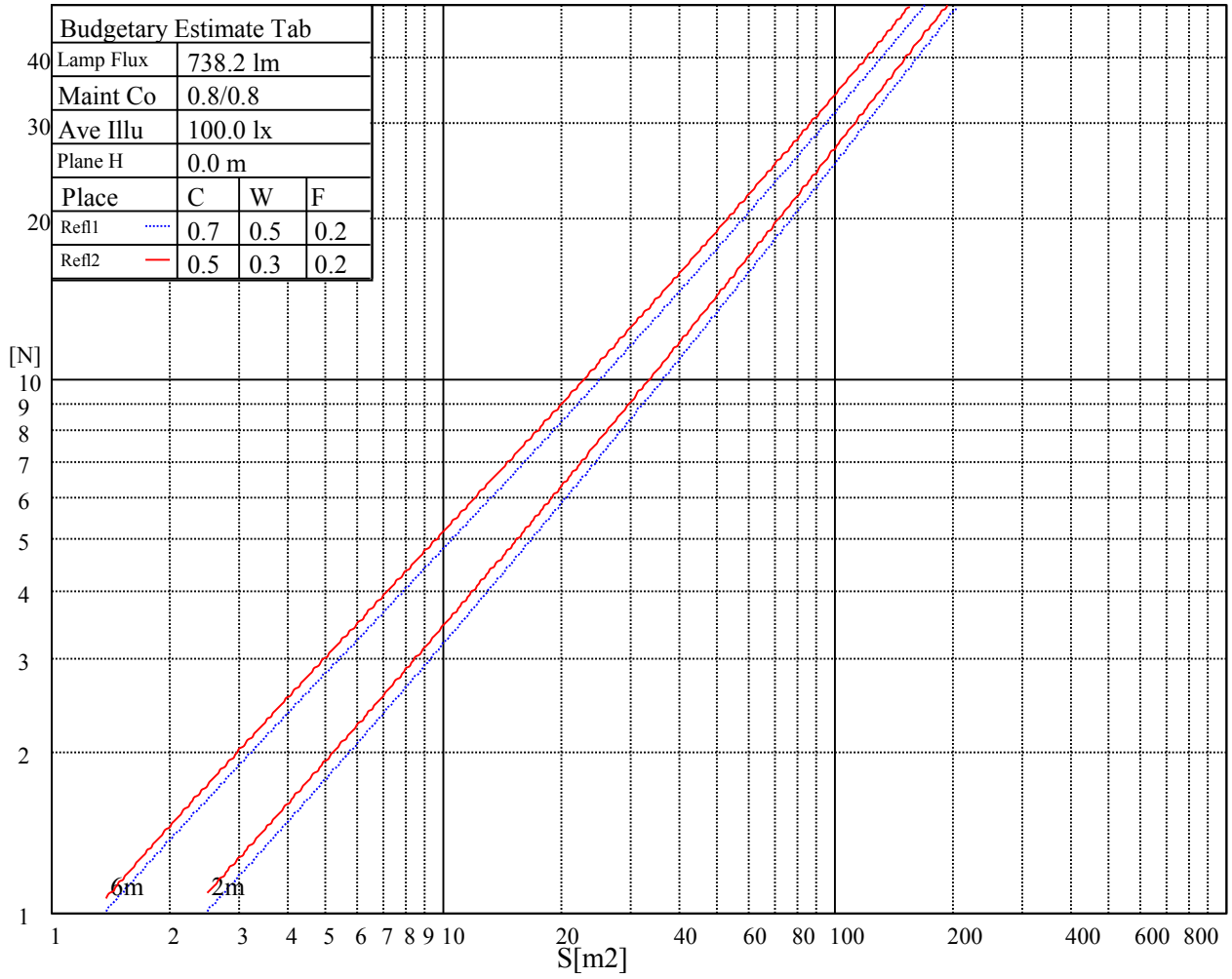
Glare Table

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

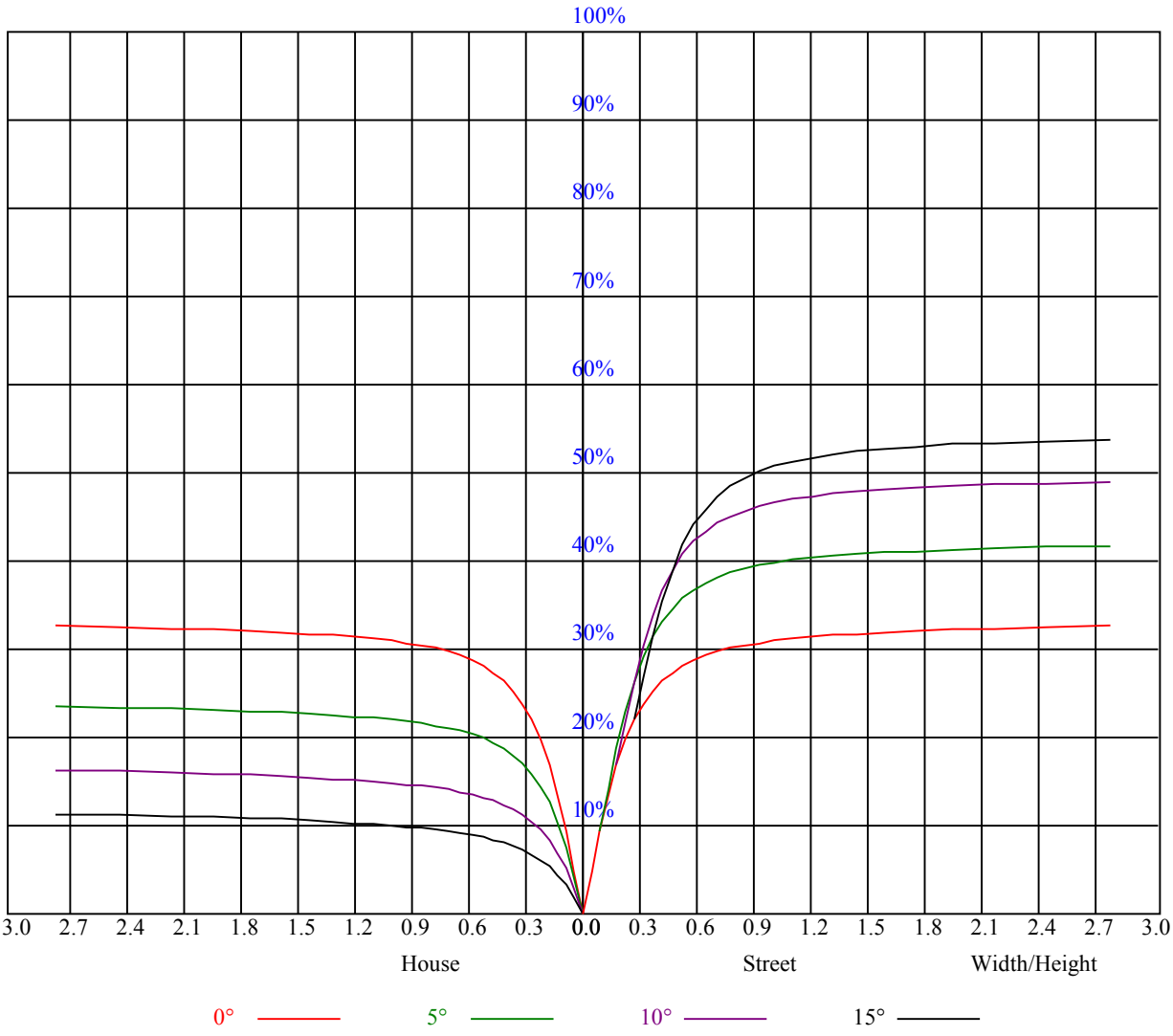


Equipment: GMS1980 Date: 2021/05/18 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.80	0.80	0.80	0.78	0.78	0.78	0.74	0.74	0.74	0.71	0.71	0.71	0.68	0.68	0.68	0.67
1	0.74	0.72	0.70	0.72	0.71	0.69	0.69	0.68	0.67	0.67	0.66	0.65	0.65	0.64	0.63	0.62
2	0.69	0.66	0.64	0.67	0.65	0.63	0.65	0.63	0.61	0.63	0.62	0.60	0.61	0.60	0.59	0.58
3	0.64	0.61	0.59	0.64	0.60	0.58	0.62	0.59	0.57	0.60	0.58	0.56	0.59	0.57	0.55	0.54
4	0.61	0.57	0.55	0.60	0.57	0.54	0.59	0.56	0.54	0.57	0.55	0.53	0.56	0.54	0.52	0.51
5	0.58	0.54	0.51	0.57	0.54	0.51	0.56	0.53	0.51	0.55	0.52	0.50	0.54	0.52	0.50	0.49
6	0.55	0.51	0.49	0.55	0.51	0.49	0.54	0.51	0.48	0.53	0.50	0.48	0.52	0.50	0.48	0.47
7	0.53	0.49	0.47	0.52	0.49	0.46	0.51	0.48	0.46	0.51	0.48	0.46	0.50	0.48	0.46	0.45
8	0.51	0.47	0.45	0.50	0.47	0.45	0.50	0.46	0.44	0.49	0.46	0.44	0.48	0.46	0.44	0.43
9	0.49	0.45	0.43	0.48	0.45	0.43	0.48	0.45	0.43	0.47	0.44	0.42	0.47	0.44	0.42	0.42
10	0.47	0.44	0.41	0.47	0.43	0.41	0.46	0.43	0.41	0.46	0.43	0.41	0.45	0.43	0.41	0.40

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/05/18	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	1883.81	1831.50	1748.81	1645.31	1538.44	1411.31	1279.13	1163.81	1053.00
45.0	1793.25	1692.00	1551.94	1433.25	1313.44	1180.69	1051.88	942.75	831.94
90.0	1752.19	1668.38	1571.63	1440.56	1329.19	1115.27	1087.43	967.28	867.60
135.0	1827.56	1810.13	1762.88	1702.69	1615.50	1511.44	1407.94	1286.44	1178.44
180.0	1883.81	1917.56	1923.75	1900.69	1850.06	1783.13	1698.75	1572.75	1463.06
225.0	1793.25	1879.31	1947.94	1998.56	2018.25	2012.06	1968.75	1910.25	1830.38
270.0	1752.19	1829.25	1882.69	1905.19	1903.50	1871.44	1820.25	1741.50	1658.81
315.0	1827.56	1820.25	1791.00	1731.94	1652.63	1565.44	1467.56	1335.94	1194.19
360.0	1883.81	1831.50	1748.81	1645.31	1538.44	1411.31	1279.13	1163.81	1053.00

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	920.81	822.94	731.81	638.44	557.44	491.06	426.38	370.13	326.81
45.0	730.69	648.56	567.56	502.88	439.31	385.31	342.56	305.44	284.63
90.0	775.86	672.36	601.37	535.28	470.42	414.11	369.34	326.19	292.95
135.0	1059.75	945.00	847.69	758.81	658.13	587.25	524.81	452.81	403.31
180.0	1348.31	1116.84	1090.35	983.48	872.44	770.12	688.89	605.59	539.04
225.0	1722.38	1598.63	1481.06	1343.25	1116.17	1087.31	966.04	862.93	757.63
270.0	1546.31	1425.94	1313.44	1200.94	1062.56	956.25	856.69	741.94	659.81
315.0	1114.88	983.64	882.84	787.73	689.96	602.66	534.38	464.79	410.29
360.0	920.81	822.94	731.81	638.44	557.44	491.06	426.38	370.13	326.81

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	284.63	263.48	220.22	193.28	172.46	154.74	137.36	122.74	111.49
45.0	237.60	212.23	185.57	166.73	150.81	134.89	121.33	110.48	100.58
90.0	262.46	231.92	207.73	185.91	166.16	151.03	137.36	121.39	110.87
135.0	358.88	316.13	286.88	250.03	217.74	192.04	172.52	152.61	139.22
180.0	472.84	416.25	370.63	327.15	288.96	259.37	232.09	202.89	182.64
225.0	665.49	592.14	526.84	455.91	406.01	362.19	315.06	281.36	252.11
270.0	586.69	515.25	452.81	403.88	356.63	320.06	284.63	250.88	226.41
315.0	358.14	312.98	278.33	244.91	215.38	192.04	171.90	150.53	136.13
360.0	284.63	263.48	220.22	193.28	172.46	154.74	137.36	122.74	111.49

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	101.19	91.41	83.31	76.67	69.30	64.13	59.29	54.06	50.23
45.0	92.25	84.21	76.16	69.86	63.62	57.77	53.21	49.44	45.06
90.0	101.48	91.63	83.19	76.33	69.58	63.39	58.78	54.51	50.51
135.0	126.34	114.47	104.46	96.47	86.74	78.69	72.84	65.87	61.26
180.0	164.48	148.05	132.81	120.54	109.58	99.51	90.68	81.68	74.76
225.0	223.20	197.55	178.43	163.58	150.75	133.37	119.59	109.91	99.90
270.0	201.99	180.39	164.19	149.51	133.54	122.01	111.83	100.13	91.97
315.0	123.53	111.38	101.25	93.66	85.39	77.23	70.88	64.63	59.57
360.0	101.19	91.41	83.31	76.67	69.30	64.13	59.29	54.06	50.23

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	46.69	43.20	40.05	37.46	34.93	32.85	30.71	28.46	26.72
45.0	41.91	39.09	36.51	34.09	31.95	29.31	27.11	25.54	24.08
90.0	46.18	42.19	38.87	35.72	33.53	31.78	30.09	28.18	26.72
135.0	56.19	50.85	47.03	43.48	39.94	37.63	34.76	32.57	30.32
180.0	68.51	63.11	58.56	53.66	49.22	45.90	42.64	39.09	36.17
225.0	89.61	81.96	75.43	67.84	62.04	57.88	52.65	47.98	45.00
270.0	84.43	76.73	69.64	64.13	58.50	54.00	49.56	45.62	42.58
315.0	54.34	50.06	46.80	42.98	40.11	37.74	35.55	32.74	30.49
360.0	46.69	43.20	40.05	37.46	34.93	32.85	30.71	28.46	26.72

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	24.92	23.51	22.33	21.21	20.03	19.18	18.39	17.44	16.65
45.0	23.01	21.94	20.87	20.03	18.90	17.61	16.71	15.81	14.91
90.0	25.20	23.57	22.56	20.93	18.51	17.27	16.31	15.53	14.85
135.0	27.84	25.71	24.08	22.78	21.54	20.19	19.07	17.94	16.93
180.0	33.58	31.50	28.86	27.00	25.26	23.06	21.66	20.59	19.46
225.0	41.91	38.25	35.27	32.34	30.49	27.56	25.31	23.96	22.67
270.0	39.54	36.84	34.59	32.40	29.98	28.01	26.27	24.58	22.56
315.0	28.63	26.44	24.81	23.40	21.88	20.81	19.86	18.79	18.00
360.0	24.92	23.51	22.33	21.21	20.03	19.18	18.39	17.44	16.65

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	15.92	15.08	14.29	13.67	12.94	12.38	11.76	11.31	10.80
45.0	14.29	13.67	12.94	12.32	11.87	11.36	10.97	10.58	10.18
90.0	14.12	13.44	12.99	12.49	11.93	11.59	11.25	11.19	12.21
135.0	16.14	15.30	14.46	13.84	13.16	12.66	12.09	11.53	11.14
180.0	18.51	17.72	16.93	16.20	15.13	14.29	13.67	12.88	12.21
225.0	21.21	20.14	19.24	17.72	16.93	16.31	15.69	15.24	14.91
270.0	21.04	19.58	18.34	17.38	16.48	15.53	14.68	13.95	13.33
315.0	17.04	15.92	15.24	14.46	13.56	13.05	12.49	11.76	11.36
360.0	15.92	15.08	14.29	13.67	12.94	12.38	11.76	11.31	10.80

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	10.46	9.96	9.62	9.34	8.89	8.61	8.33	7.99	7.65
45.0	9.84	9.51	9.23	8.83	8.44	7.88	7.54	7.14	6.81
90.0	14.01	16.59	19.74	22.67	26.27	29.42	32.29	34.54	36.56
135.0	10.69	10.18	9.84	9.45	9.06	8.66	8.38	7.99	7.65
180.0	11.64	11.19	10.63	10.18	9.84	9.39	9.00	8.61	8.27
225.0	14.57	14.40	14.23	14.23	14.23	14.12	13.61	13.16	12.43
270.0	12.77	12.15	11.70	11.36	11.87	13.39	15.81	19.18	23.68
315.0	10.97	10.58	10.13	9.73	9.34	9.00	8.66	8.27	7.99
360.0	10.46	9.96	9.62	9.34	8.89	8.61	8.33	7.99	7.65

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.43	7.20	7.43	7.99	8.78	9.11	8.78	7.88	7.26
45.0	6.47	6.19	5.85	5.57	5.23	4.95	4.73	4.56	4.33
90.0	37.80	37.41	36.06	34.03	31.50	29.25	26.61	21.21	12.26
135.0	7.37	7.03	6.69	6.36	5.96	5.68	5.40	5.06	4.78
180.0	7.99	7.88	7.99	8.10	7.82	7.14	6.36	5.79	5.29
225.0	11.19	10.29	9.34	8.27	7.76	7.37	7.09	6.69	6.41
270.0	26.49	29.25	32.29	34.82	36.73	38.98	39.60	39.09	36.84
315.0	7.65	7.37	7.09	6.81	6.47	6.19	5.91	5.68	5.34
360.0	7.43	7.20	7.43	7.99	8.78	9.11	8.78	7.88	7.26

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6.92	5.34	4.05	3.77	3.60	3.38	3.21	3.38	3.15
45.0	4.16	3.99	3.88	3.77	3.66	3.38	3.21	3.32	3.38
90.0	6.24	4.33	3.99	3.54	3.09	2.87	2.81	2.81	2.81
135.0	4.50	4.16	3.88	3.66	3.26	3.09	2.87	2.70	2.53
180.0	5.01	4.73	4.39	4.05	3.66	3.38	3.15	2.93	2.70
225.0	6.19	5.74	5.40	5.01	4.78	4.39	3.83	3.54	3.32
270.0	34.20	31.56	28.18	24.92	16.82	9.11	4.05	3.54	3.38
315.0	5.01	4.67	4.44	4.16	3.94	3.66	3.32	3.26	3.04
360.0	6.92	5.34	4.05	3.77	3.60	3.38	3.21	3.38	3.15

Intensity data(cd)

C/γ(°)	90.0
0.0	3.15
45.0	3.32
90.0	2.93
135.0	2.48
180.0	2.48
225.0	3.15
270.0	3.04
315.0	2.87
360.0	3.15