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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

Nata

LumCAT: 3-2079-E
Luminaire: 92.70.153.00

Report No: NATA0100	Voltage(V): 34.0800
Test No: GC2019111409	Current(A): 0.3220
LampCAT: PHILIPS SLM92757 TWL112024 CP	Power (W): 10.9700
Lamp flux(lm): 1022.0	PF: 1.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 831.14
Efficiency(%): 81.32%
Lumens(lm)/Power(W): 75.76
Central intensity(cd): 5152.149
Maximum intensity(cd): 5152.149
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=15.5
[C90/270]Total=15.5
Field angle(10%Imax): [C0/180]Total=37.3
[C90/270]Total=37.3
Maximum s/h(1/2): C0_180=0.27 C90_270=0.27
Maximum s/h(1/4): C0_180=0.28 C90_270=0.28
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 81.32%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.088%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	5152.148	0.000	0	.000%	.000%
1.0	5098.359	4.905	4.905	.480%	.590%
2.0	4919.555	14.379	19.283	1.407%	2.320%
3.0	4640.133	22.864	42.147	2.237%	5.071%
4.0	4287.375	29.883	72.03	2.924%	8.666%
5.0	3851.297	35.012	107.042	3.426%	12.879%
6.0	3360.023	37.897	144.94	3.708%	17.439%
7.0	2901.656	38.866	183.806	3.803%	22.115%
8.0	2469.867	38.443	222.249	3.762%	26.740%
9.0	2074.219	36.827	259.076	3.603%	31.171%
10.0	1720.477	34.341	293.417	3.360%	35.303%
11.0	1410.813	31.288	324.705	3.061%	39.067%
12.0	1210.549	28.655	353.36	2.804%	42.515%
13.0	1030.345	26.594	379.954	2.602%	45.715%
14.0	885.333	24.521	404.474	2.399%	48.665%
15.0	772.931	22.765	427.24	2.228%	51.404%
16.0	680.063	21.290	448.53	2.083%	53.966%
17.0	602.557	19.974	468.504	1.954%	56.369%
18.0	545.231	18.925	487.429	1.852%	58.646%
19.0	499.050	18.168	505.597	1.778%	60.832%
20.0	459.471	17.544	523.14	1.717%	62.943%
21.0	426.502	17.012	540.153	1.665%	64.989%
22.0	400.507	16.619	556.772	1.626%	66.989%
23.0	378.998	16.356	573.128	1.600%	68.957%
24.0	358.643	16.127	589.256	1.578%	70.897%
25.0	342.788	15.949	605.205	1.561%	72.816%
26.0	329.330	15.865	621.07	1.552%	74.725%
27.0	317.173	15.817	636.887	1.548%	76.628%
28.0	305.768	15.772	652.658	1.543%	78.526%
29.0	296.016	15.744	668.403	1.541%	80.420%
30.0	285.630	15.704	684.107	1.537%	82.310%
31.0	273.094	15.548	699.656	1.521%	84.180%
32.0	258.736	15.236	714.892	1.491%	86.013%
33.0	236.264	14.583	729.475	1.427%	87.768%
34.0	213.462	13.610	743.085	1.332%	89.406%
35.0	184.479	12.359	755.443	1.209%	90.892%
36.0	155.742	10.833	766.276	1.060%	92.196%
37.0	129.045	9.288	775.564	.909%	93.313%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	102.642	7.733	783.298	.757%	94.244%
39.0	76.880	6.128	789.425	.600%	94.981%
40.0	59.196	4.746	794.171	.464%	95.552%
41.0	44.951	3.709	797.88	.363%	95.998%
42.0	34.172	2.875	800.754	.281%	96.344%
43.0	26.002	2.229	802.983	.218%	96.612%
44.0	20.236	1.745	804.728	.171%	96.822%
45.0	15.729	1.382	806.111	.135%	96.989%
46.0	12.087	1.088	807.198	.106%	97.119%
47.0	9.548	0.860	808.059	.084%	97.223%
48.0	7.755	0.700	808.758	.068%	97.307%
49.0	6.757	0.596	809.354	.058%	97.379%
50.0	6.391	0.548	809.903	.054%	97.445%
51.0	6.251	0.535	810.437	.052%	97.509%
52.0	6.152	0.532	810.97	.052%	97.573%
53.0	6.075	0.532	811.502	.052%	97.637%
54.0	5.998	0.532	812.034	.052%	97.701%
55.0	5.927	0.532	812.566	.052%	97.765%
56.0	5.871	0.533	813.099	.052%	97.829%
57.0	5.801	0.534	813.633	.052%	97.894%
58.0	5.780	0.536	814.168	.052%	97.958%
59.0	5.723	0.538	814.706	.053%	98.023%
60.0	5.688	0.539	815.245	.053%	98.088%
61.0	5.653	0.541	815.786	.053%	98.153%
62.0	5.611	0.543	816.329	.053%	98.218%
63.0	5.597	0.545	816.874	.053%	98.284%
64.0	5.548	0.547	817.421	.054%	98.349%
65.0	5.520	0.548	817.969	.054%	98.415%
66.0	5.491	0.549	818.518	.054%	98.481%
67.0	5.463	0.551	819.069	.054%	98.548%
68.0	5.435	0.552	819.621	.054%	98.614%
69.0	5.421	0.554	820.175	.054%	98.681%
70.0	5.386	0.555	820.73	.054%	98.748%
71.0	5.365	0.556	821.286	.054%	98.814%
72.0	5.323	0.556	821.841	.054%	98.881%
73.0	5.309	0.556	822.397	.054%	98.948%
74.0	5.288	0.557	822.954	.055%	99.015%
75.0	5.245	0.557	823.511	.054%	99.082%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.224	0.556	824.067	.054%	99.149%
77.0	5.189	0.555	824.622	.054%	99.216%
78.0	5.161	0.554	825.176	.054%	99.282%
79.0	5.119	0.552	825.728	.054%	99.349%
80.0	5.084	0.550	826.278	.054%	99.415%
81.0	5.041	0.548	826.826	.054%	99.481%
82.0	4.985	0.544	827.37	.053%	99.546%
83.0	4.929	0.539	827.908	.053%	99.611%
84.0	4.866	0.534	828.442	.052%	99.675%
85.0	4.718	0.523	828.965	.051%	99.738%
86.0	4.437	0.500	829.466	.049%	99.799%
87.0	3.959	0.459	829.925	.045%	99.854%
88.0	3.684	0.419	830.344	.041%	99.904%
89.0	3.614	0.400	830.744	.039%	99.952%
90.0	3.607	0.396	831.14	.039%	100.000%

Zonal flux distribution table

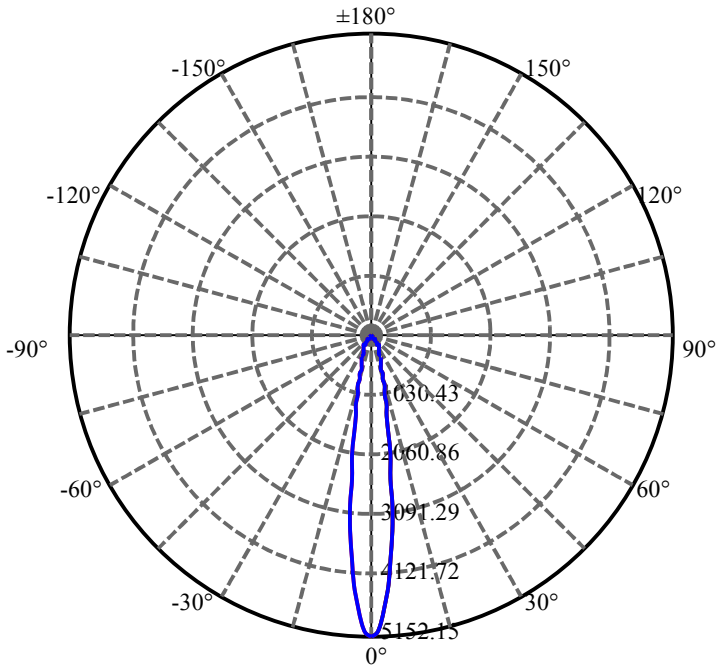
ZONAL LUMEN SUMMARY

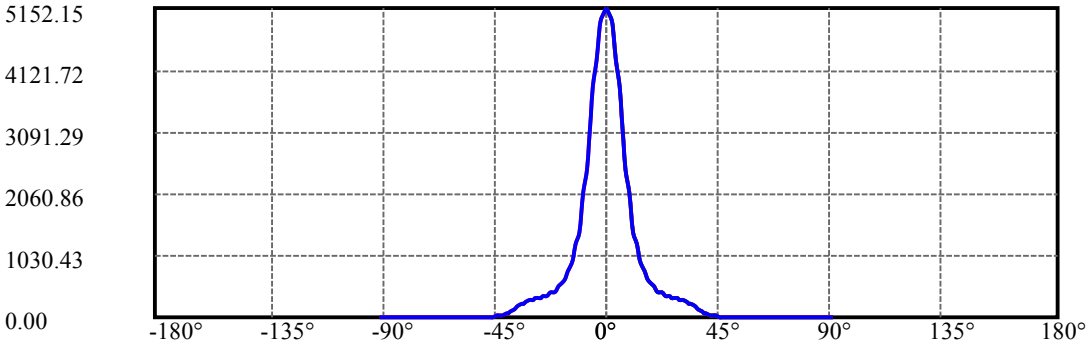
Zone	Lumens	%Lamp	%Fixt
0-30	684.11	66.94%	82.31%
0-40	794.17	77.71%	95.55%
0-60	815.25	79.77%	98.09%
0-90	830.74	81.29%	99.95%
0-120	830.74	81.29%	99.95%
0-180	831.14	81.32%	100.00%
60-90	16.04	1.57%	1.93%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.78	664.91	65.06%	80.00%

ZONAL LUMEN SUMMARY

0-10	293.42
10-20	229.72
20-30	160.97
30-40	110.06
40-50	15.73
50-60	5.34
60-70	5.48
70-80	5.55
80-90	4.47
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):

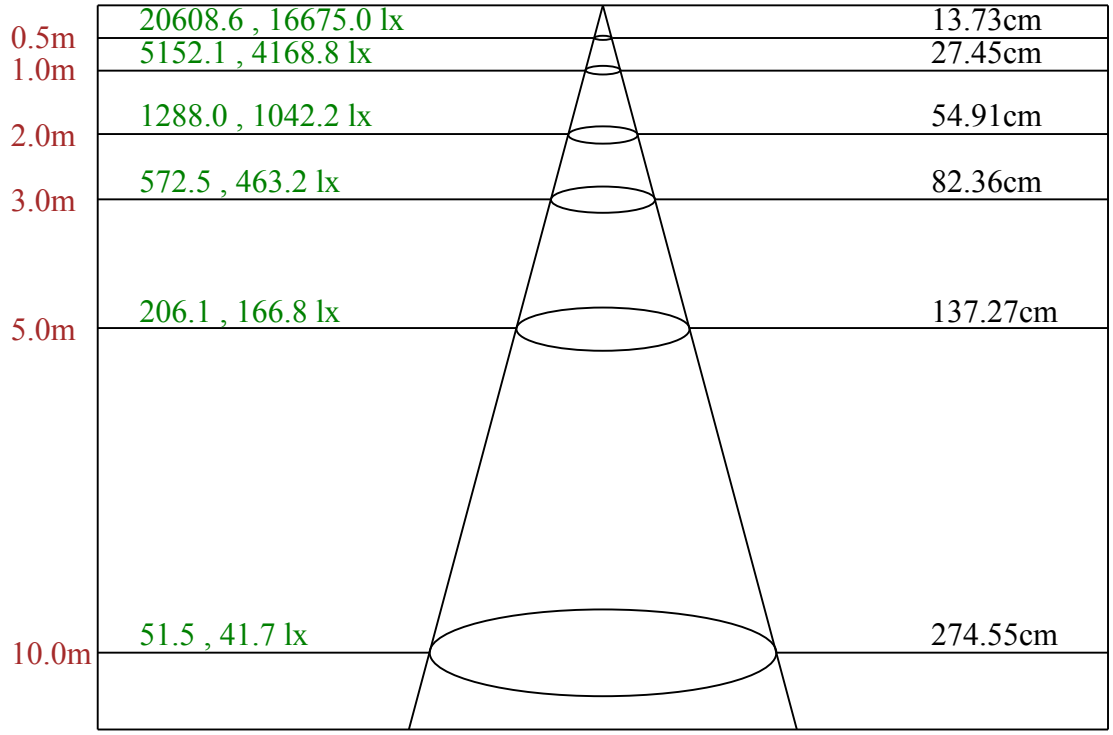
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:18.6 Right:18.6
:C90/270Left:18.6 Right:18.6

Beam Angle(50%Imax):C0/180Left:7.8 Right:7.8
:C90/270Left:7.8 Right:7.8

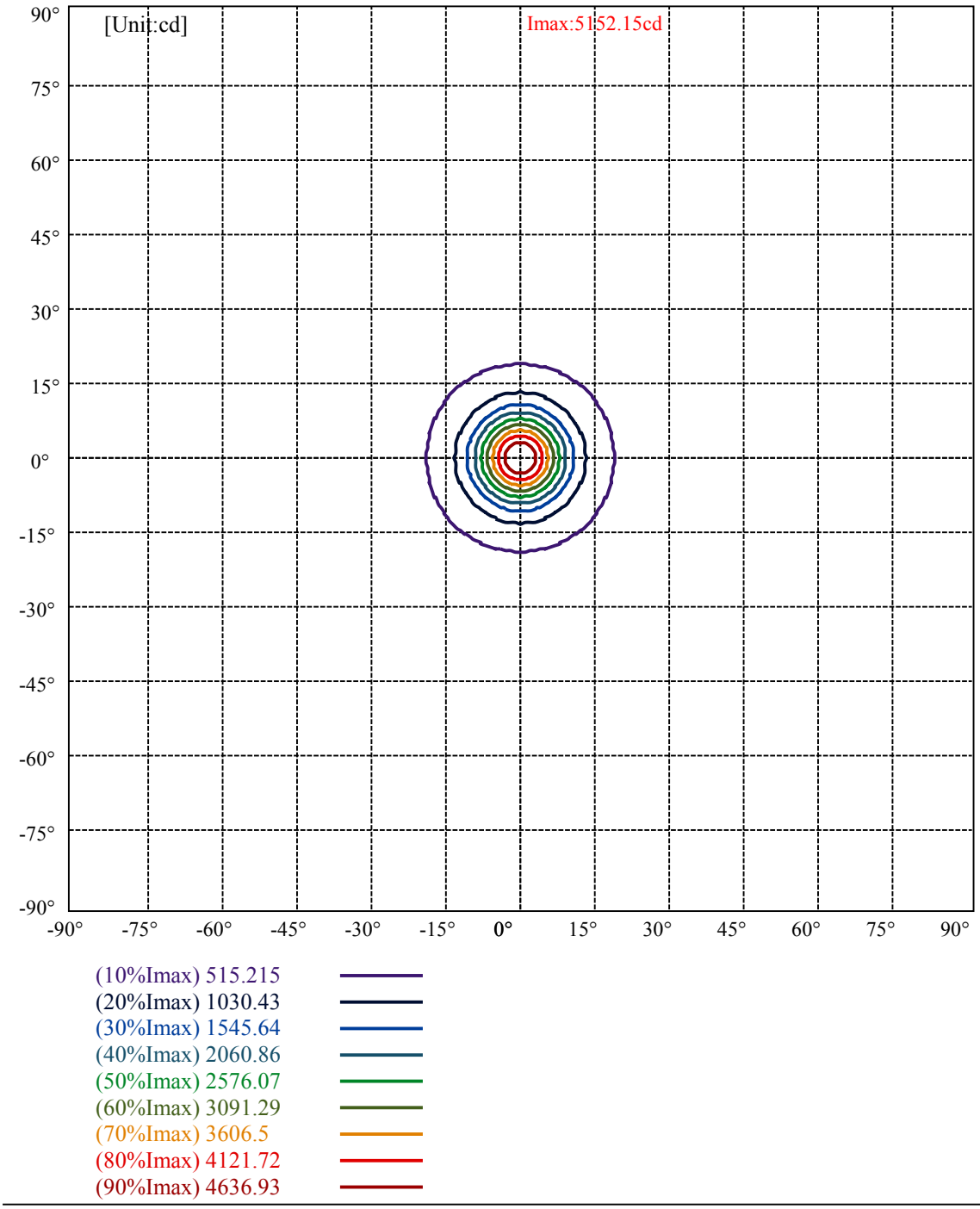
Lux distance Curve



Max , Ave

Beam angle of C0 plane 15.63

ISO-Intensity(V-H)



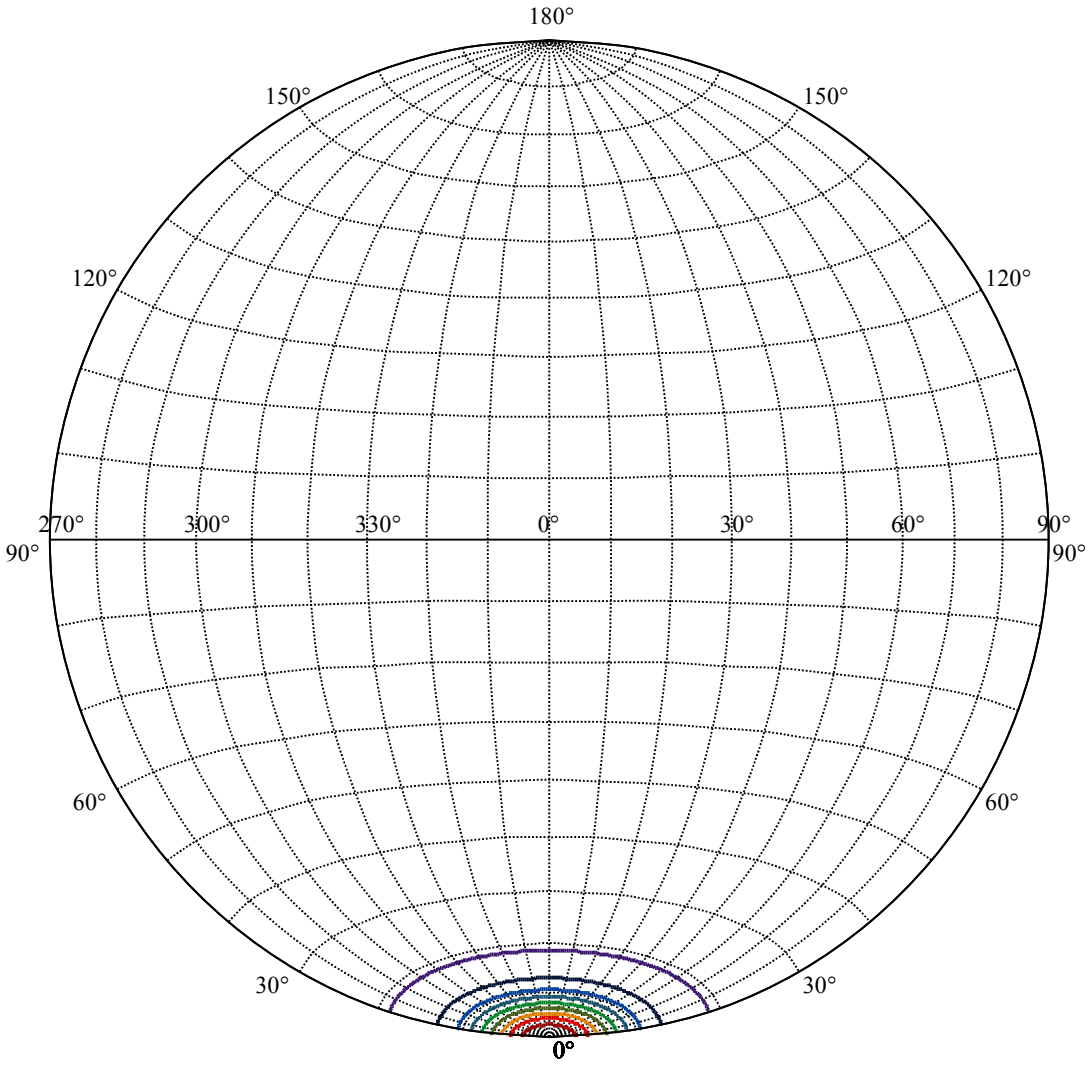
(10%Imax) 515.215
(20%Imax) 1030.43
(30%Imax) 1545.64
(40%Imax) 2060.86
(50%Imax) 2576.07
(60%Imax) 3091.29
(70%Imax) 3606.5
(80%Imax) 4121.72
(90%Imax) 4636.93

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/14
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:5152.15

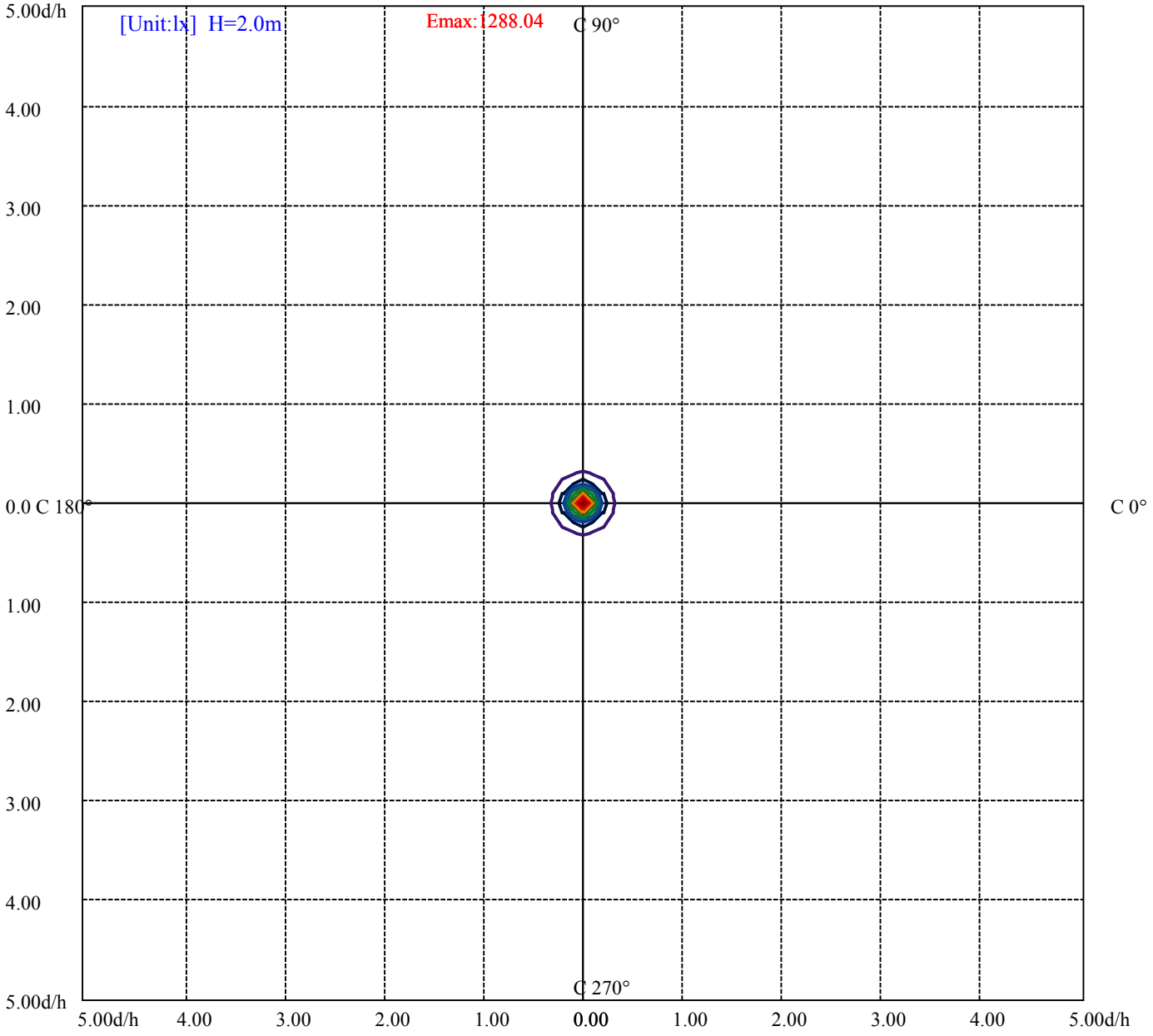
(10%Imax) 515.215
(20%Imax) 1030.43
(30%Imax) 1545.64
(40%Imax) 2060.86
(50%Imax) 2576.07
(60%Imax) 3091.29
(70%Imax) 3606.5
(80%Imax) 4121.72
(90%Imax) 4636.93

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/14
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

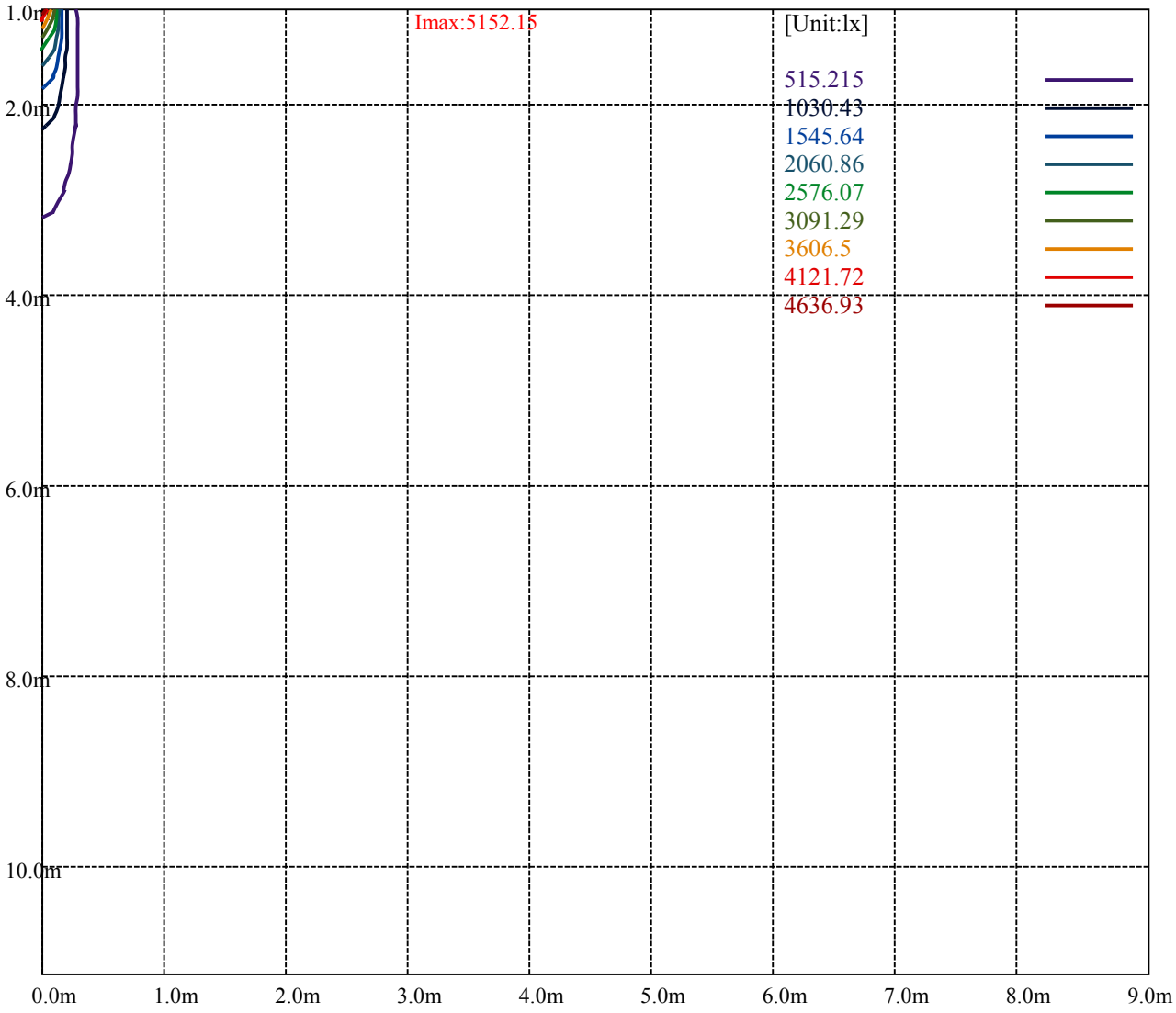
ISO illuminance diagram



(10%Emax) 128.8035
(20%Emax) 257.6075
(30%Emax) 386.41
(40%Emax) 515.215
(50%Emax) 644.0175
(60%Emax) 772.82
(70%Emax) 901.625
(80%Emax) 1030.427
(90%Emax) 1159.233

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2019/11/14
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/11/14
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

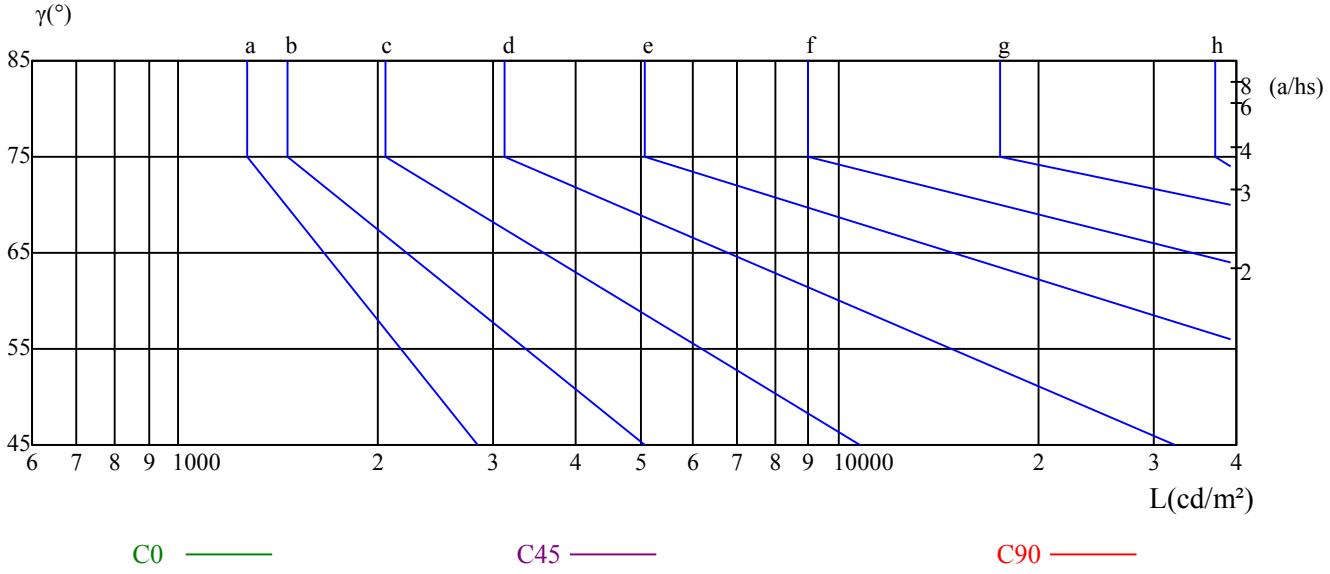
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

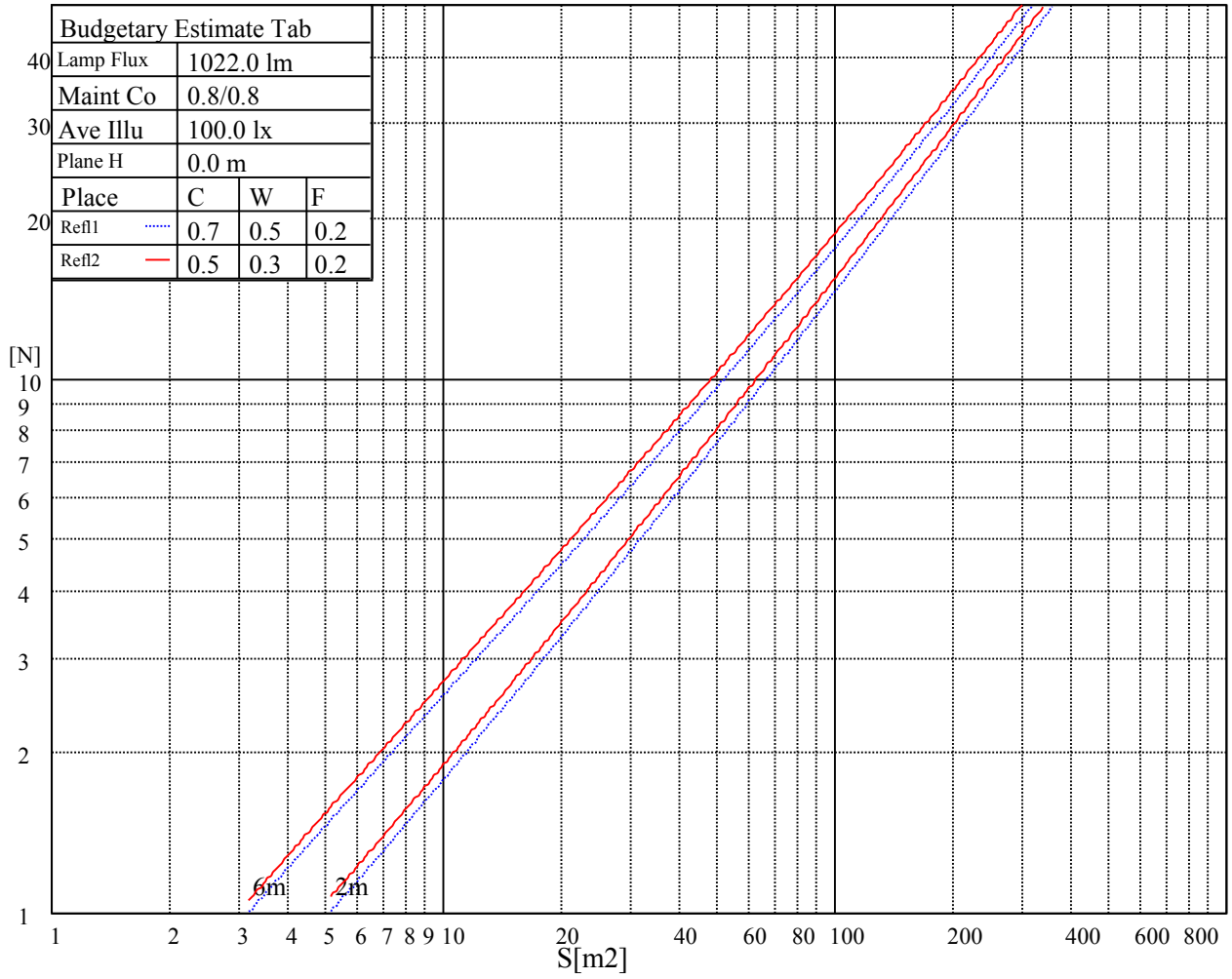
Glare Table

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 Limitting Curve



Budgetary Estimate Table

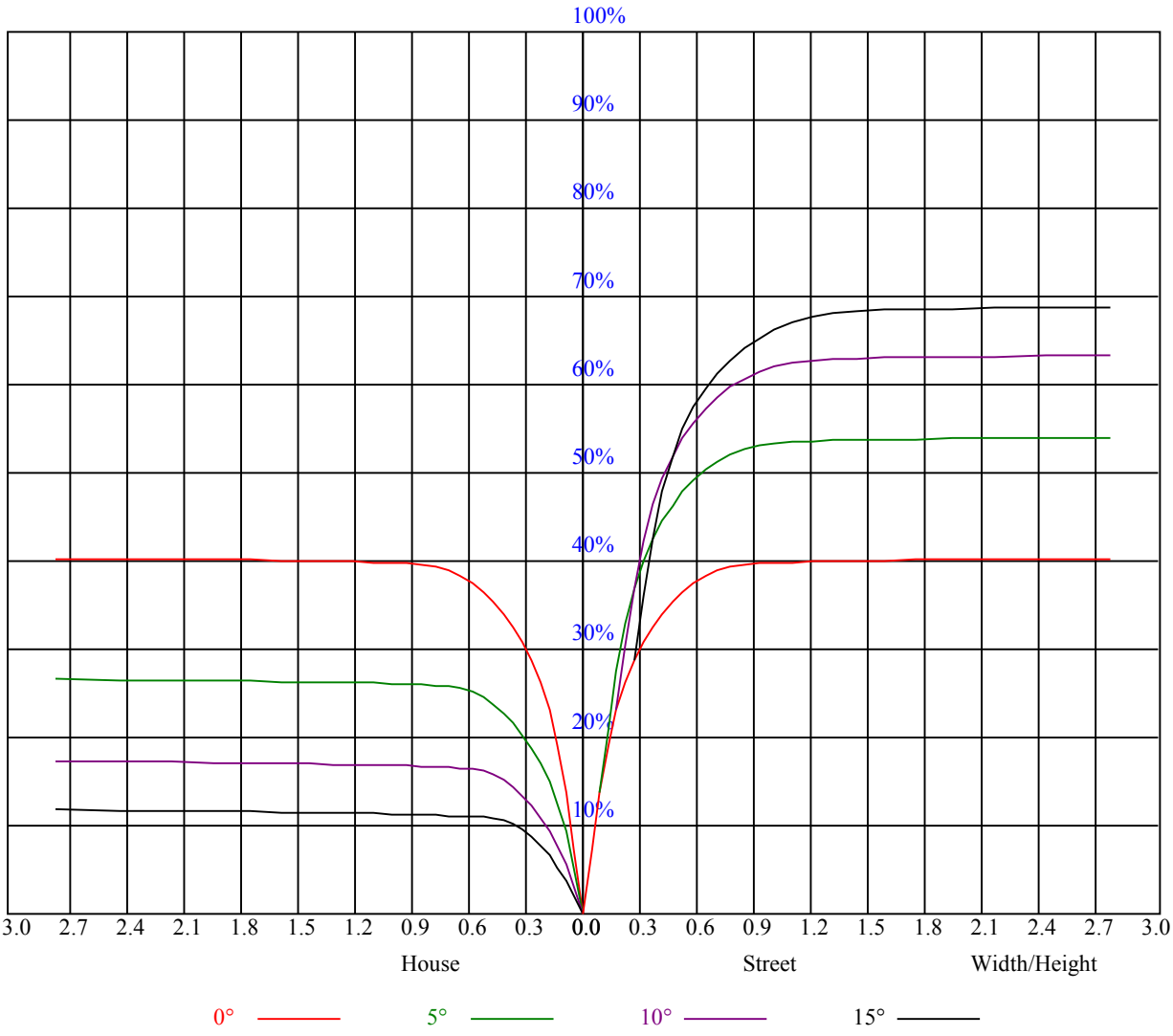


Equipment: GMS1980 Date: 2019/11/14 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.97	0.97	0.97	0.95	0.95	0.95	0.90	0.90	0.90	0.87	0.87	0.87	0.83	0.83	0.83	0.81
1	0.91	0.89	0.87	0.89	0.88	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.80	0.79	0.79	0.77
2	0.86	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.75	0.74
3	0.81	0.78	0.75	0.80	0.77	0.75	0.78	0.76	0.74	0.76	0.74	0.73	0.75	0.73	0.71	0.70
4	0.78	0.74	0.71	0.77	0.73	0.71	0.75	0.72	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.67
5	0.74	0.70	0.68	0.74	0.70	0.67	0.72	0.69	0.67	0.71	0.68	0.66	0.70	0.67	0.66	0.65
6	0.71	0.67	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.63	0.62
7	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.61	0.66	0.63	0.61	0.65	0.63	0.61	0.60
8	0.66	0.62	0.60	0.66	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.58
9	0.64	0.60	0.57	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.61	0.59	0.57	0.56
10	0.62	0.58	0.56	0.61	0.58	0.55	0.61	0.58	0.55	0.60	0.57	0.55	0.60	0.57	0.55	0.54

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/11/14	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	5139.00	5174.44	5107.50	4916.25	4603.50	4241.81	3778.31	3293.44	2868.75
45.0	5142.94	5159.81	5045.06	4851.56	4569.19	4114.13	3696.19	3259.13	2777.06
90.0	5156.44	5080.50	4908.38	4564.69	4201.88	3784.50	3222.56	2777.63	2365.88
135.0	5165.44	5103.00	4914.00	4646.25	4251.94	3844.13	3349.13	2851.31	2437.31
180.0	5148.56	5004.00	4739.06	4370.06	3979.69	3552.19	3002.06	2580.75	2196.56
225.0	5142.94	5025.94	4739.63	4414.50	4024.13	3475.69	3086.44	2599.31	2157.19
270.0	5156.44	5123.25	4960.69	4707.56	4364.44	3901.50	3399.19	2949.19	2472.19
315.0	5165.44	5115.94	4942.13	4650.19	4304.25	3896.44	3346.31	2902.50	2484.00
360.0	5139.00	5174.44	5107.50	4916.25	4603.50	4241.81	3778.31	3293.44	2868.75

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2520.56	2033.44	1730.81	1504.13	1232.44	1035.56	909.00	762.75	662.63
45.0	2332.13	1977.75	1641.38	1396.13	1173.94	999.56	876.38	766.69	678.38
90.0	1962.00	1631.25	1393.88	1111.16	998.04	870.36	754.88	672.41	597.54
135.0	2022.75	1669.50	1409.63	1198.13	991.13	862.88	759.38	671.63	598.50
180.0	1821.38	1510.88	1112.85	1069.99	901.35	781.76	676.29	602.61	537.86
225.0	1817.44	1499.06	1119.09	1055.48	911.76	786.49	689.51	619.37	561.66
270.0	2054.25	1737.56	1442.25	1227.38	1033.31	876.38	764.44	673.31	586.13
315.0	2063.25	1704.38	1436.63	1122.02	1000.80	869.68	753.58	671.74	597.77
360.0	2520.56	2033.44	1730.81	1504.13	1232.44	1035.56	909.00	762.75	662.63

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	601.88	534.94	492.19	457.31	422.44	399.38	379.13	357.75	343.69
45.0	611.44	558.56	502.31	466.88	434.81	406.13	383.06	366.19	348.75
90.0	538.14	495.84	460.69	424.86	401.23	381.21	359.72	344.98	332.10
135.0	545.06	496.69	454.50	424.69	397.13	376.31	356.06	339.75	326.81
180.0	487.69	452.25	423.00	392.85	372.66	355.28	336.49	323.61	312.19
225.0	504.45	466.65	434.93	402.41	380.87	362.36	344.64	329.51	318.09
270.0	533.81	491.06	447.75	419.63	396.00	373.50	354.38	339.75	325.13
315.0	539.38	496.41	460.41	423.39	398.93	377.83	355.67	340.76	327.88
360.0	601.88	534.94	492.19	457.31	422.44	399.38	379.13	357.75	343.69

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	330.19	316.69	307.13	298.13	287.44	284.06	260.38	240.41	214.54
45.0	334.69	323.44	312.19	302.63	290.81	285.19	258.53	235.52	208.46
90.0	319.44	308.19	299.08	288.73	277.09	260.04	239.51	216.39	187.09
135.0	316.13	303.19	293.63	284.63	270.11	251.83	233.21	210.21	178.20
180.0	302.18	290.42	280.69	268.59	255.49	235.80	211.11	186.58	157.78
225.0	306.56	297.28	287.72	275.68	263.08	244.29	220.50	195.30	168.19
270.0	314.44	303.19	293.06	284.06	267.64	250.37	231.02	207.68	174.99
315.0	313.76	303.75	294.64	282.60	273.09	258.30	235.86	215.61	186.58
360.0	330.19	316.69	307.13	298.13	287.44	284.06	260.38	240.41	214.54

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	188.27	157.73	130.39	101.53	77.12	59.63	46.18	33.75	26.55
45.0	182.03	154.07	120.43	96.02	74.31	54.84	41.06	31.95	24.19
90.0	156.43	129.54	104.23	76.61	58.50	44.83	33.69	25.48	19.97
135.0	151.82	126.00	99.51	76.16	58.67	43.48	32.68	25.43	19.29
180.0	131.85	104.18	82.13	59.29	45.39	34.93	27.23	20.14	15.92
225.0	134.33	109.01	85.73	61.26	47.03	36.39	27.79	21.32	16.99
270.0	148.28	121.95	93.94	69.92	53.49	39.99	30.54	24.08	18.56
315.0	152.94	129.88	104.79	74.25	59.06	45.51	34.20	25.88	20.42
360.0	188.27	157.73	130.39	101.53	77.12	59.63	46.18	33.75	26.55

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	20.93	15.47	12.21	9.73	7.59	6.64	6.41	6.30	6.19
45.0	18.39	14.40	11.03	8.78	6.98	6.41	6.24	6.13	6.02
90.0	15.08	11.48	9.11	7.20	6.47	6.19	6.08	5.96	5.91
135.0	15.19	11.59	9.00	7.37	6.58	6.30	6.19	6.08	6.02
180.0	12.71	9.73	7.99	6.86	6.53	6.41	6.30	6.24	6.19
225.0	13.11	10.52	8.38	6.98	6.58	6.41	6.30	6.19	6.13
270.0	14.85	11.53	9.11	7.54	6.69	6.41	6.24	6.19	6.08
315.0	15.58	11.98	9.56	7.59	6.64	6.36	6.24	6.13	6.08
360.0	20.93	15.47	12.21	9.73	7.59	6.64	6.41	6.30	6.19

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	6.13	6.02	5.96	5.91	5.85	5.79	5.74	5.74	5.68
45.0	5.96	5.85	5.79	5.74	5.74	5.63	5.63	5.57	5.51
90.0	5.85	5.74	5.68	5.63	5.63	5.57	5.51	5.46	5.46
135.0	5.96	5.91	5.85	5.74	5.74	5.68	5.68	5.63	5.63
180.0	6.08	6.02	5.96	5.91	5.85	5.85	5.79	5.74	5.68
225.0	6.08	6.02	5.96	5.91	5.85	5.79	5.74	5.74	5.68
270.0	5.96	5.96	5.91	5.79	5.79	5.74	5.74	5.68	5.63
315.0	5.96	5.91	5.85	5.79	5.79	5.74	5.68	5.68	5.63
360.0	6.13	6.02	5.96	5.91	5.85	5.79	5.74	5.74	5.68

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.68	5.63	5.57	5.57	5.51	5.46	5.46	5.46	5.40
45.0	5.51	5.46	5.46	5.40	5.40	5.34	5.34	5.29	5.29
90.0	5.40	5.40	5.34	5.29	5.29	5.29	5.18	5.18	5.12
135.0	5.57	5.51	5.51	5.46	5.46	5.40	5.40	5.34	5.34
180.0	5.68	5.63	5.63	5.63	5.57	5.57	5.57	5.51	5.51
225.0	5.68	5.63	5.57	5.57	5.57	5.51	5.51	5.51	5.46
270.0	5.63	5.57	5.51	5.51	5.46	5.46	5.46	5.40	5.40
315.0	5.63	5.57	5.57	5.51	5.46	5.46	5.46	5.40	5.40
360.0	5.68	5.63	5.57	5.57	5.51	5.46	5.46	5.46	5.40

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.34	5.34	5.34	5.29	5.29	5.23	5.23	5.18	5.12
45.0	5.23	5.18	5.18	5.12	5.12	5.12	5.06	5.01	5.01
90.0	5.12	5.12	5.06	5.01	5.01	4.95	4.89	4.84	4.84
135.0	5.29	5.29	5.23	5.18	5.18	5.18	5.12	5.06	5.06
180.0	5.46	5.46	5.46	5.46	5.40	5.34	5.34	5.29	5.23
225.0	5.46	5.40	5.40	5.40	5.34	5.29	5.29	5.29	5.23
270.0	5.34	5.34	5.29	5.23	5.23	5.18	5.18	5.12	5.06
315.0	5.34	5.34	5.34	5.29	5.23	5.23	5.18	5.18	5.12
360.0	5.34	5.34	5.34	5.29	5.29	5.23	5.23	5.18	5.12

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.12	5.06	5.01	5.01	4.89	4.67	4.28	3.83	3.66
45.0	4.95	4.89	4.84	4.84	4.73	4.50	4.22	3.71	3.60
90.0	4.78	4.73	4.67	4.61	4.50	4.33	3.88	3.71	3.60
135.0	5.01	4.95	4.89	4.84	4.73	4.39	3.99	3.66	3.60
180.0	5.18	5.12	5.01	4.84	4.67	4.28	3.77	3.60	3.60
225.0	5.18	5.18	5.12	5.01	4.78	4.39	3.83	3.66	3.66
270.0	5.01	4.95	4.89	4.84	4.67	4.50	3.88	3.66	3.60
315.0	5.12	5.01	5.01	4.95	4.78	4.44	3.83	3.66	3.60
360.0	5.12	5.06	5.01	5.01	4.89	4.67	4.28	3.83	3.66

Intensity data(cd)

C/γ(°)	90.0
0.0	3.60
45.0	3.60
90.0	3.60
135.0	3.60
180.0	3.60
225.0	3.66
270.0	3.60
315.0	3.60
360.0	3.60