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Nata

LumCAT: 2-1120-A3
Luminaire: 99.02.73.172+92.76.365.00

Report No: 200407-B014	Voltage(V): 33.5000
Test No: 200407-C014	Current(A): 0.3470
LampCAT: LUMINUS CXM-14-AC40	Power (W): 11.6210
Lamp flux(lm): 1553.5	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1369.67
Efficiency(%): 88.17%
Lumens(lm)/Power(W): 117.86
Central intensity(cd): 7569.844
Maximum intensity(cd): 7656.398
Angle of maximum intensity: C=0.0 γ=1.0
Beam Angle(50%Imax): [C0/180]Total=17.1
[C90/270]Total=17.1
Field angle(10%Imax): [C0/180]Total=37.8
[C90/270]Total=37.8
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.30 C90_270=0.30
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.17%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.708%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	7569.844	0.000	0	.000%	.000%
1.0	7656.398	7.285	7.285	.469%	.532%
2.0	7514.648	21.775	29.06	1.402%	2.122%
3.0	7274.813	35.372	64.432	2.277%	4.704%
4.0	6870.727	47.350	111.782	3.048%	8.161%
5.0	6367.219	56.949	168.731	3.666%	12.319%
6.0	5690.602	63.367	232.098	4.079%	16.945%
7.0	4948.102	66.034	298.132	4.251%	21.767%
8.0	4264.523	65.933	364.065	4.244%	26.580%
9.0	3498.188	62.913	426.977	4.050%	31.174%
10.0	2831.555	57.282	484.259	3.687%	35.356%
11.0	2349.211	51.766	536.026	3.332%	39.135%
12.0	1925.367	46.727	582.753	3.008%	42.547%
13.0	1566.155	41.436	624.189	2.667%	45.572%
14.0	1331.205	37.086	661.275	2.387%	48.280%
15.0	1151.487	34.084	695.358	2.194%	50.768%
16.0	1004.344	31.589	726.947	2.033%	53.075%
17.0	905.716	29.745	756.692	1.915%	55.246%
18.0	819.134	28.439	785.131	1.831%	57.323%
19.0	758.714	27.451	812.582	1.767%	59.327%
20.0	709.277	26.868	839.45	1.730%	61.288%
21.0	672.103	26.525	865.976	1.707%	63.225%
22.0	642.495	26.417	892.393	1.701%	65.154%
23.0	619.995	26.490	918.884	1.705%	67.088%
24.0	597.614	26.621	945.505	1.714%	69.032%
25.0	578.820	26.750	972.254	1.722%	70.985%
26.0	564.827	26.996	999.25	1.738%	72.956%
27.0	551.939	27.322	1026.572	1.759%	74.950%
28.0	535.845	27.540	1054.113	1.773%	76.961%
29.0	525.150	27.759	1081.871	1.787%	78.988%
30.0	514.582	28.073	1109.944	1.807%	81.037%
31.0	499.479	28.220	1138.164	1.817%	83.098%
32.0	477.830	27.999	1166.162	1.802%	85.142%
33.0	447.230	27.253	1193.415	1.754%	87.132%
34.0	409.627	25.931	1219.346	1.669%	89.025%
35.0	364.753	24.049	1243.395	1.548%	90.781%
36.0	320.189	21.809	1265.204	1.404%	92.373%
37.0	265.465	19.101	1284.305	1.230%	93.767%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	225.998	16.404	1300.709	1.056%	94.965%
39.0	164.953	13.344	1314.053	.859%	95.939%
40.0	118.758	9.895	1323.948	.637%	96.662%
41.0	79.488	7.059	1331.008	.454%	97.177%
42.0	48.509	4.650	1335.658	.299%	97.517%
43.0	28.322	2.846	1338.504	.183%	97.725%
44.0	18.907	1.783	1340.287	.115%	97.855%
45.0	14.759	1.294	1341.58	.083%	97.949%
46.0	11.742	1.036	1342.617	.067%	98.025%
47.0	9.956	0.863	1343.48	.056%	98.088%
48.0	9.127	0.771	1344.251	.050%	98.144%
49.0	8.508	0.724	1344.975	.047%	98.197%
50.0	8.044	0.690	1345.665	.044%	98.247%
51.0	7.784	0.670	1346.335	.043%	98.296%
52.0	7.566	0.659	1346.994	.042%	98.344%
53.0	7.362	0.649	1347.643	.042%	98.392%
54.0	7.172	0.641	1348.284	.041%	98.439%
55.0	6.996	0.632	1348.916	.041%	98.485%
56.0	6.834	0.625	1349.541	.040%	98.530%
57.0	6.715	0.620	1350.161	.040%	98.576%
58.0	6.518	0.612	1350.772	.039%	98.620%
59.0	6.441	0.606	1351.378	.039%	98.664%
60.0	6.321	0.603	1351.981	.039%	98.708%
61.0	6.223	0.599	1352.58	.039%	98.752%
62.0	6.082	0.593	1353.173	.038%	98.795%
63.0	6.026	0.589	1353.762	.038%	98.838%
64.0	5.984	0.589	1354.351	.038%	98.881%
65.0	5.920	0.589	1354.94	.038%	98.924%
66.0	5.878	0.589	1355.529	.038%	98.967%
67.0	5.815	0.588	1356.117	.038%	99.010%
68.0	5.773	0.587	1356.704	.038%	99.053%
69.0	5.752	0.588	1357.292	.038%	99.096%
70.0	5.702	0.588	1357.88	.038%	99.139%
71.0	5.660	0.587	1358.467	.038%	99.182%
72.0	5.632	0.587	1359.054	.038%	99.225%
73.0	5.611	0.588	1359.642	.038%	99.268%
74.0	5.527	0.586	1360.228	.038%	99.311%
75.0	5.491	0.582	1360.81	.037%	99.353%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.513	0.584	1361.394	.038%	99.396%
77.0	5.562	0.590	1361.984	.038%	99.439%
78.0	5.562	0.595	1362.58	.038%	99.482%
79.0	5.491	0.594	1363.174	.038%	99.526%
80.0	5.470	0.591	1363.765	.038%	99.569%
81.0	5.470	0.592	1364.356	.038%	99.612%
82.0	5.442	0.592	1364.948	.038%	99.655%
83.0	5.435	0.591	1365.539	.038%	99.698%
84.0	5.428	0.592	1366.131	.038%	99.742%
85.0	5.372	0.589	1366.721	.038%	99.785%
86.0	5.393	0.588	1367.309	.038%	99.828%
87.0	5.379	0.590	1367.899	.038%	99.871%
88.0	5.365	0.589	1368.487	.038%	99.914%
89.0	5.400	0.590	1369.077	.038%	99.957%
90.0	5.428	0.594	1369.671	.038%	100.000%

Zonal flux distribution table

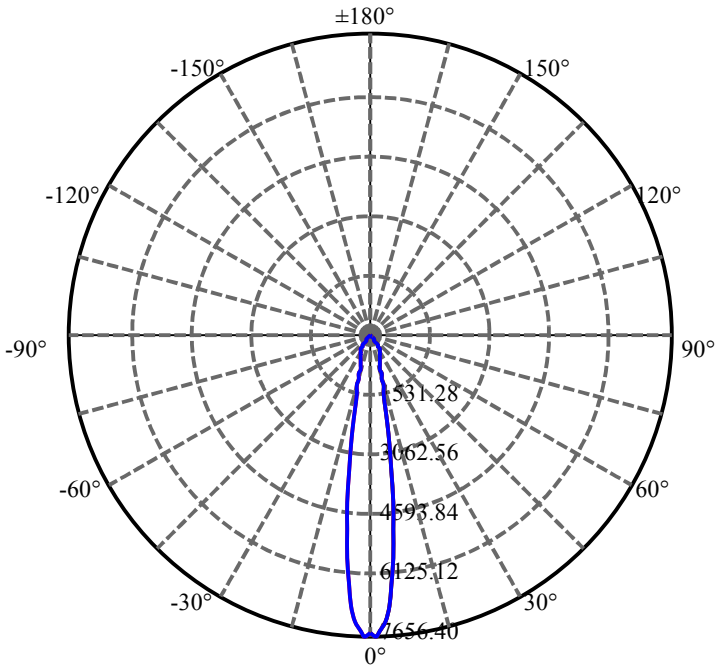
ZONAL LUMEN SUMMARY

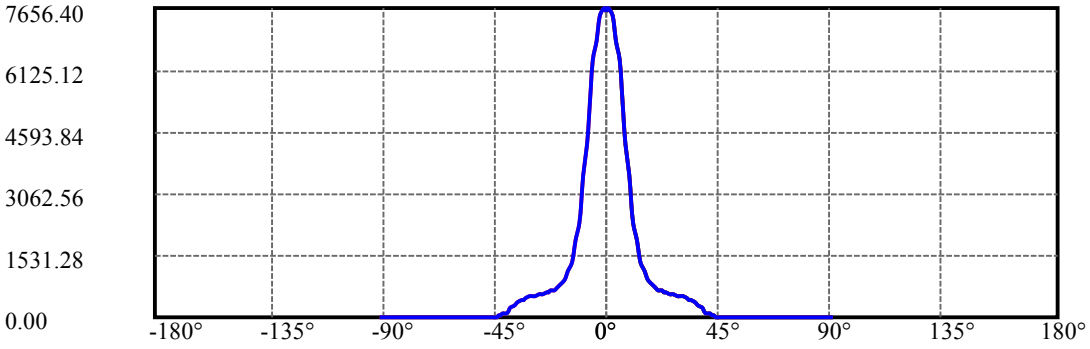
Zone	Lumens	%Lamp	%Fixt
0-30	1109.94	71.45%	81.04%
0-40	1323.95	85.22%	96.66%
0-60	1351.98	87.03%	98.71%
0-90	1369.08	88.13%	99.96%
0-120	1369.08	88.13%	99.96%
0-180	1369.67	88.17%	100.00%
60-90	17.70	1.14%	1.29%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.49	1095.74	70.53%	80.00%

ZONAL LUMEN SUMMARY

0-10	484.26
10-20	355.19
20-30	270.49
30-40	214.00
40-50	21.72
50-60	6.32
60-70	5.90
70-80	5.88
80-90	5.31
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):

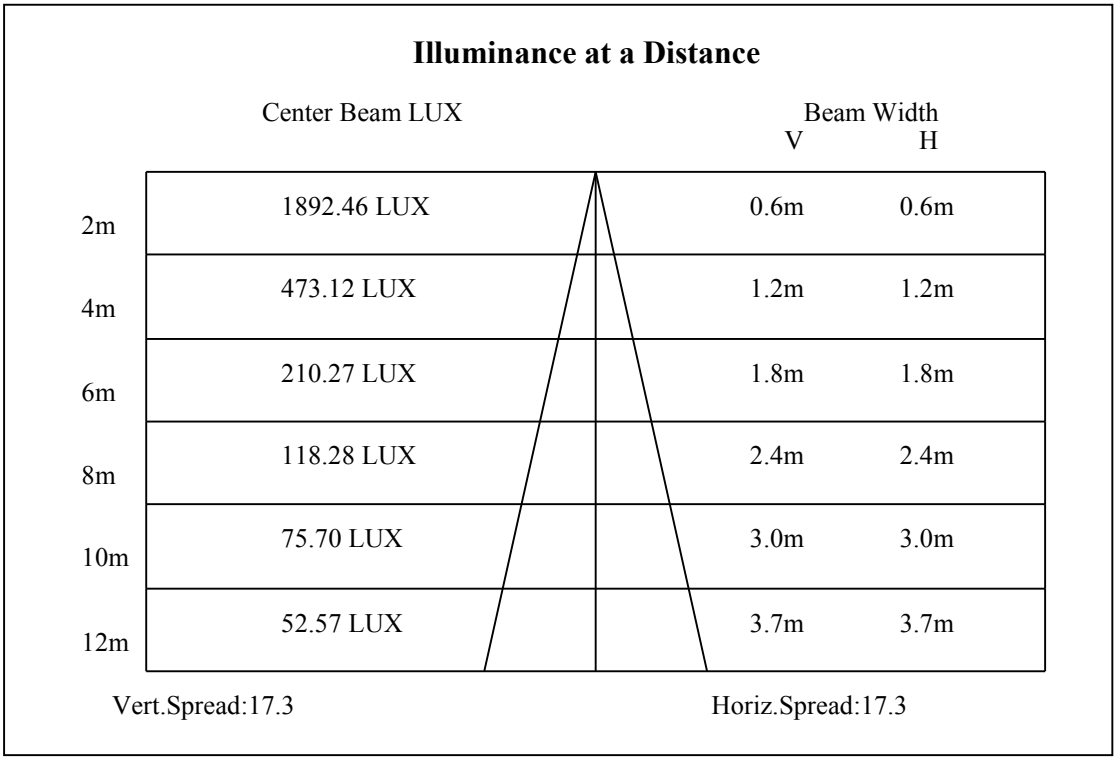
C0/C180:

C90/C270:

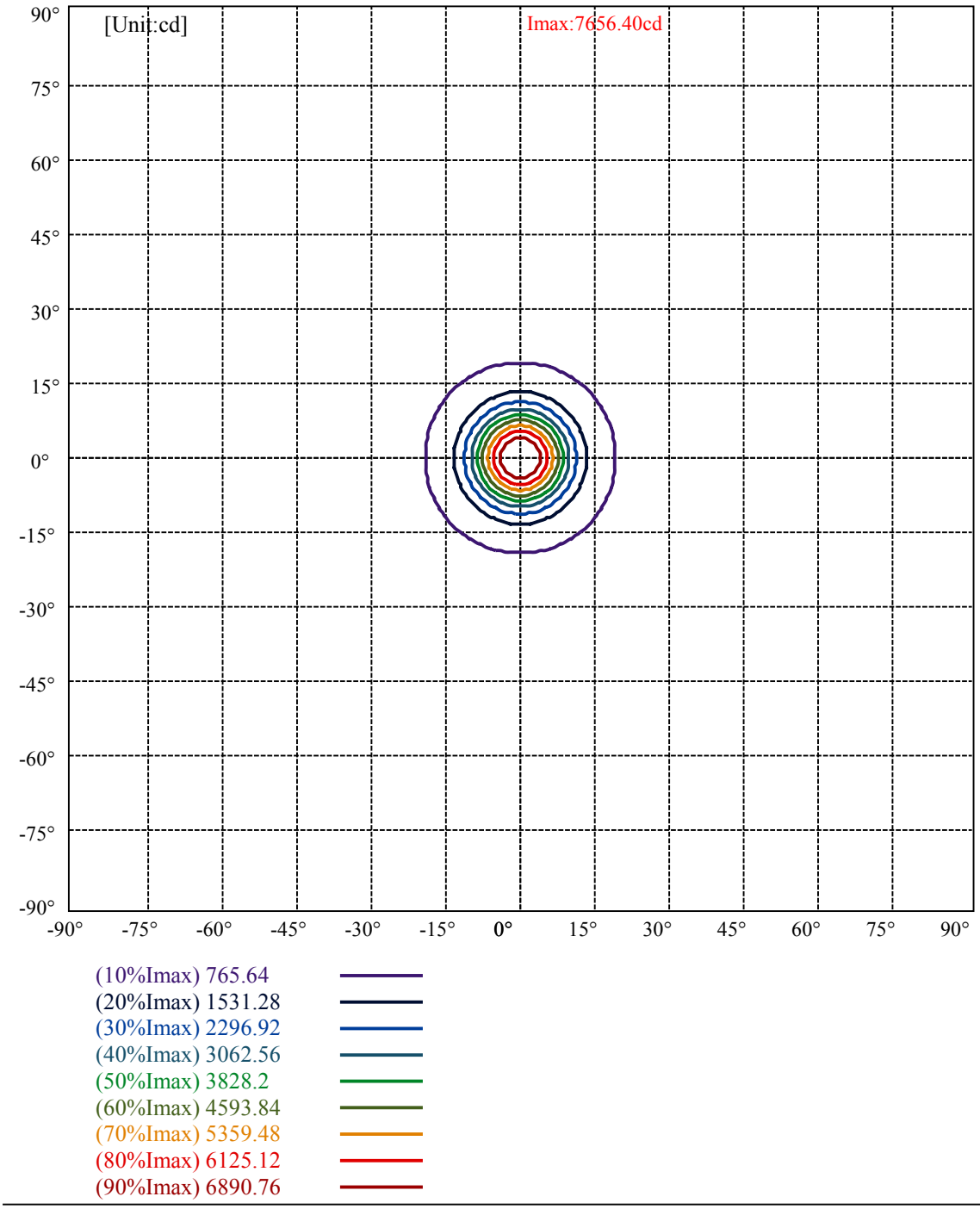
Field angle(10%Imax):C0/180Left:19.9 Right:17.9
:C90/270Left:19.9 Right:17.9

Beam Angle(50%Imax):C0/180Left:9.6 Right:7.6
:C90/270Left:9.6 Right:7.6

Lux distance Curve



ISO-Intensity(V-H)

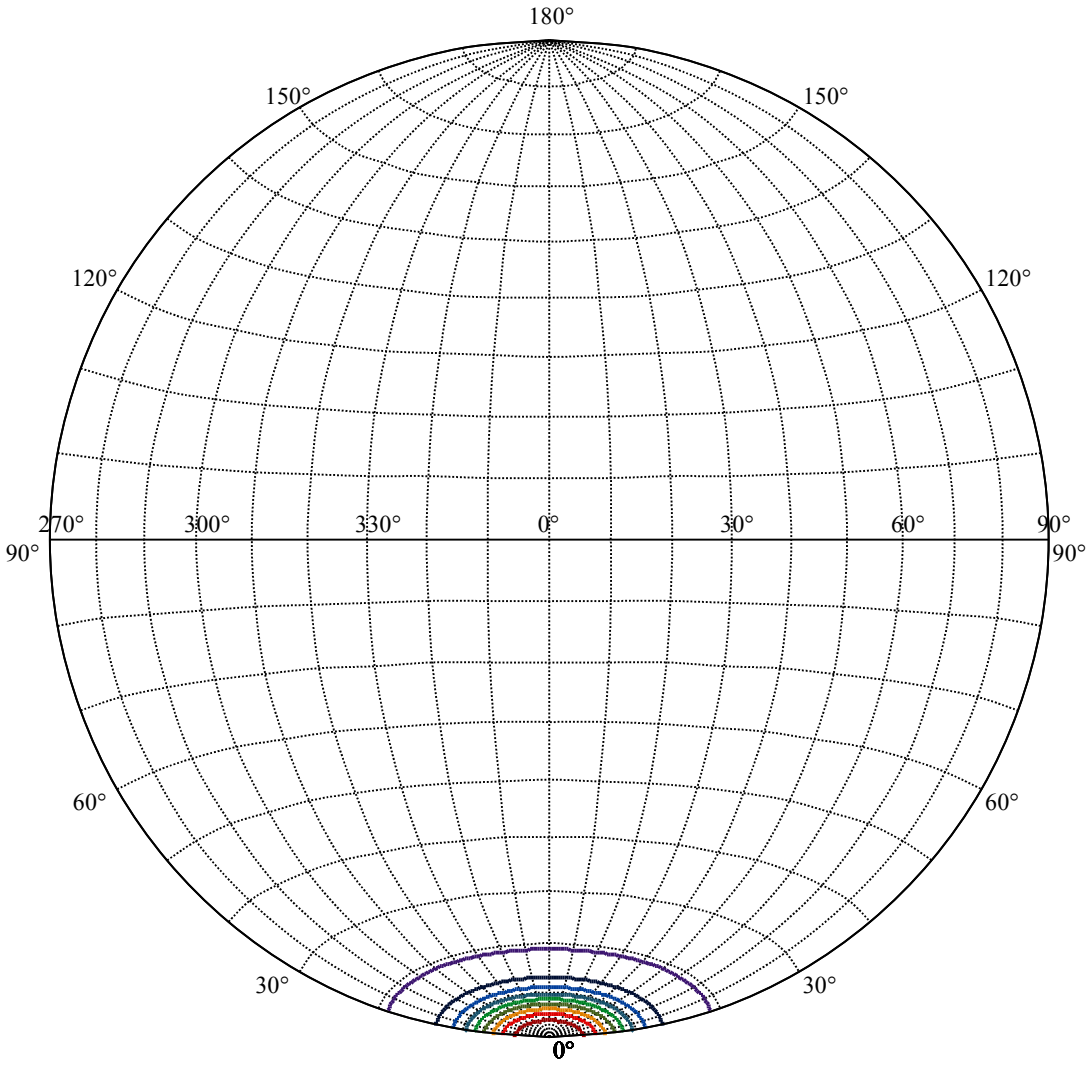


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



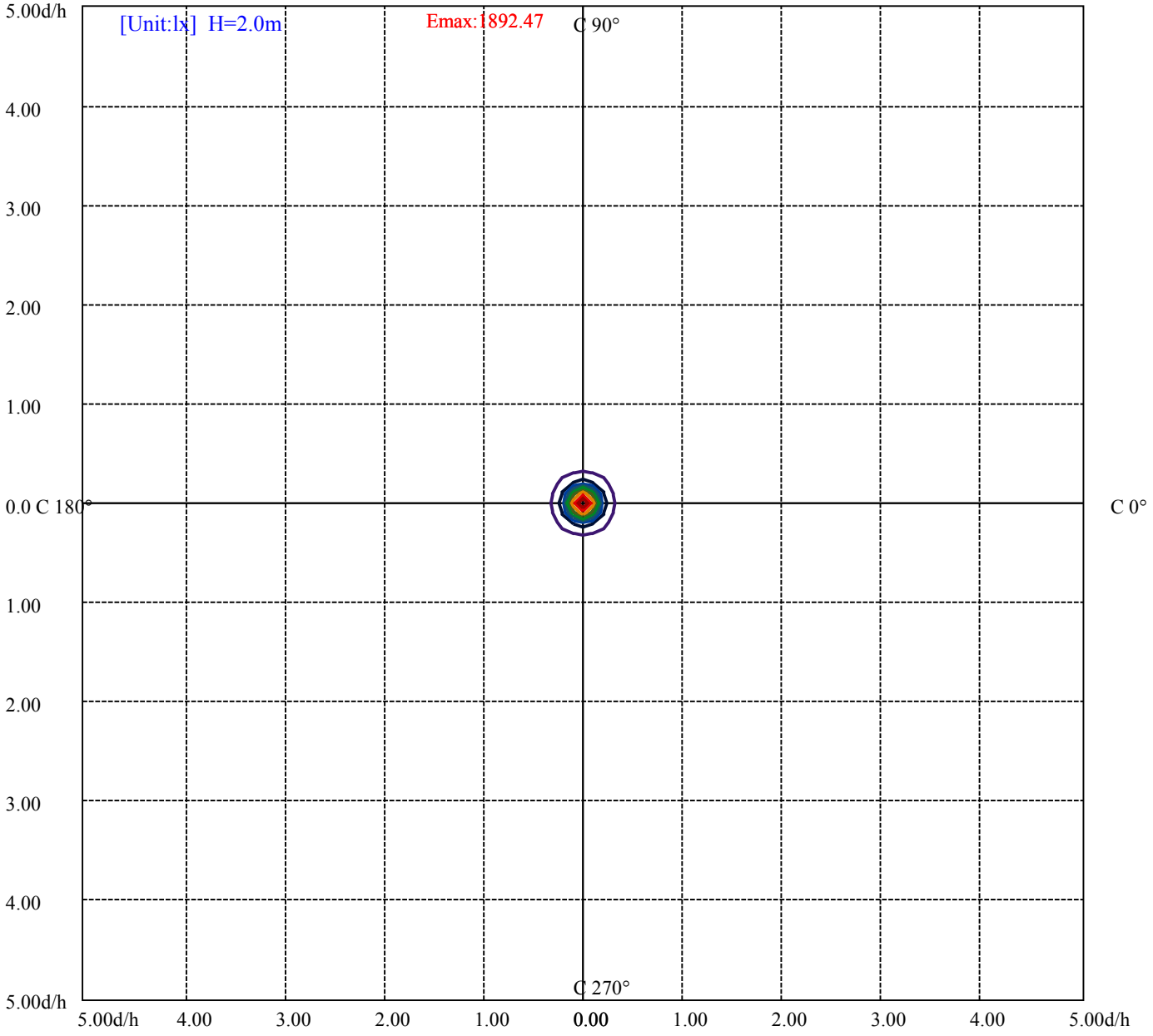
House [Unit:cd] Road

Imax:7656.40

(10%Imax) 765.64
(20%Imax) 1531.28
(30%Imax) 2296.92
(40%Imax) 3062.56
(50%Imax) 3828.2
(60%Imax) 4593.84
(70%Imax) 5359.48
(80%Imax) 6125.12
(90%Imax) 6890.76

Equipment: GMS1980 Date: 2020/4/7 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

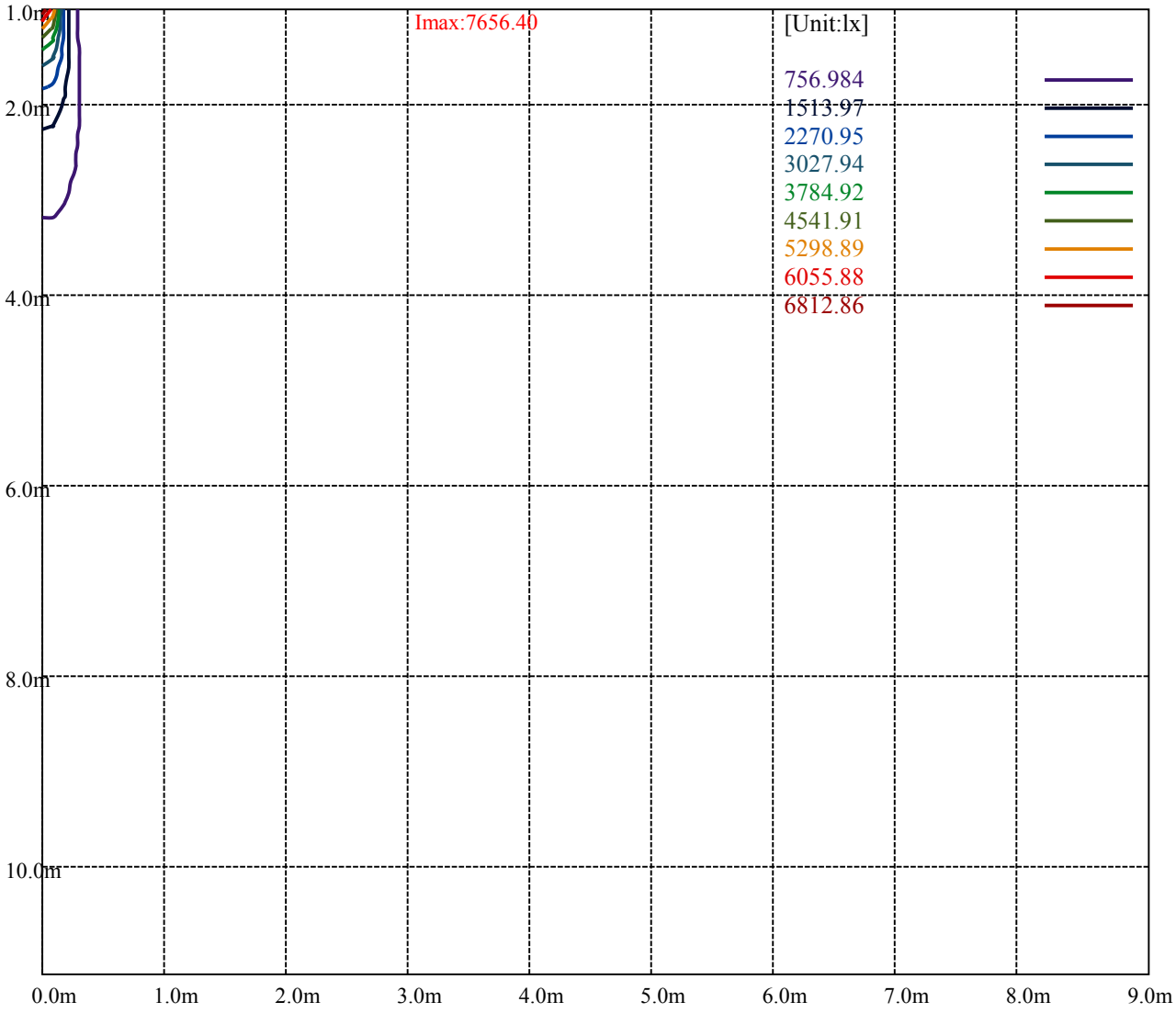
ISO illuminance diagram



(10%Emax) 189.2465
(20%Emax) 378.4925
(30%Emax) 567.74
(40%Emax) 756.985
(50%Emax) 946.2325
(60%Emax) 1135.478
(70%Emax) 1324.725
(80%Emax) 1513.973
(90%Emax) 1703.218

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2020/4/7
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/4/7
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

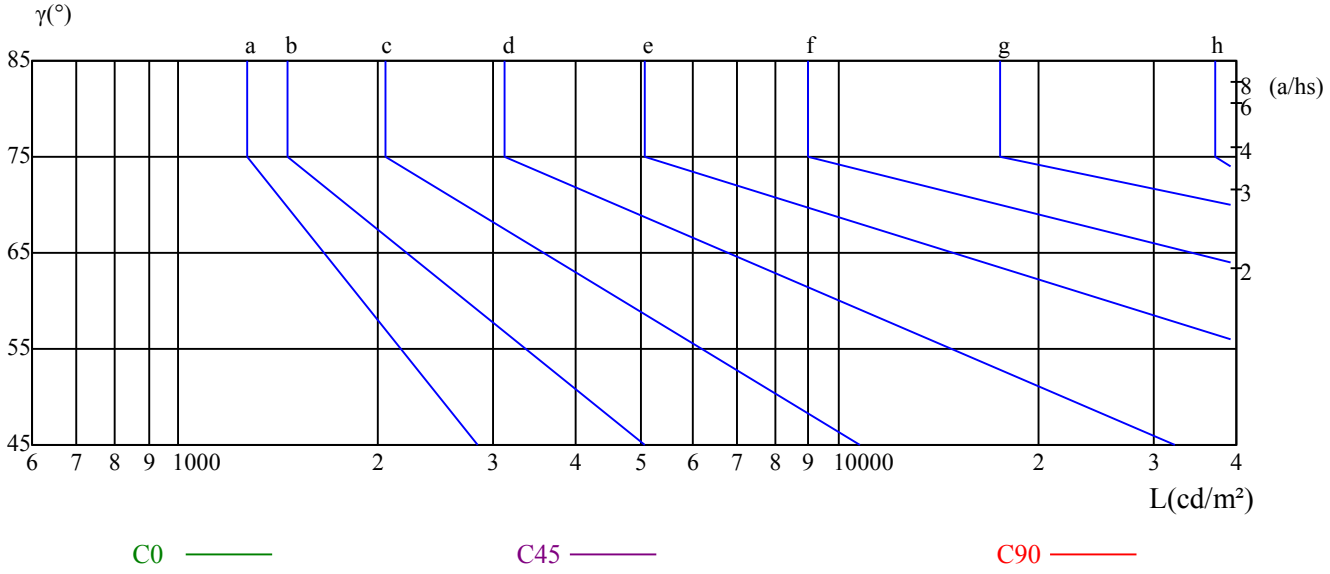
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

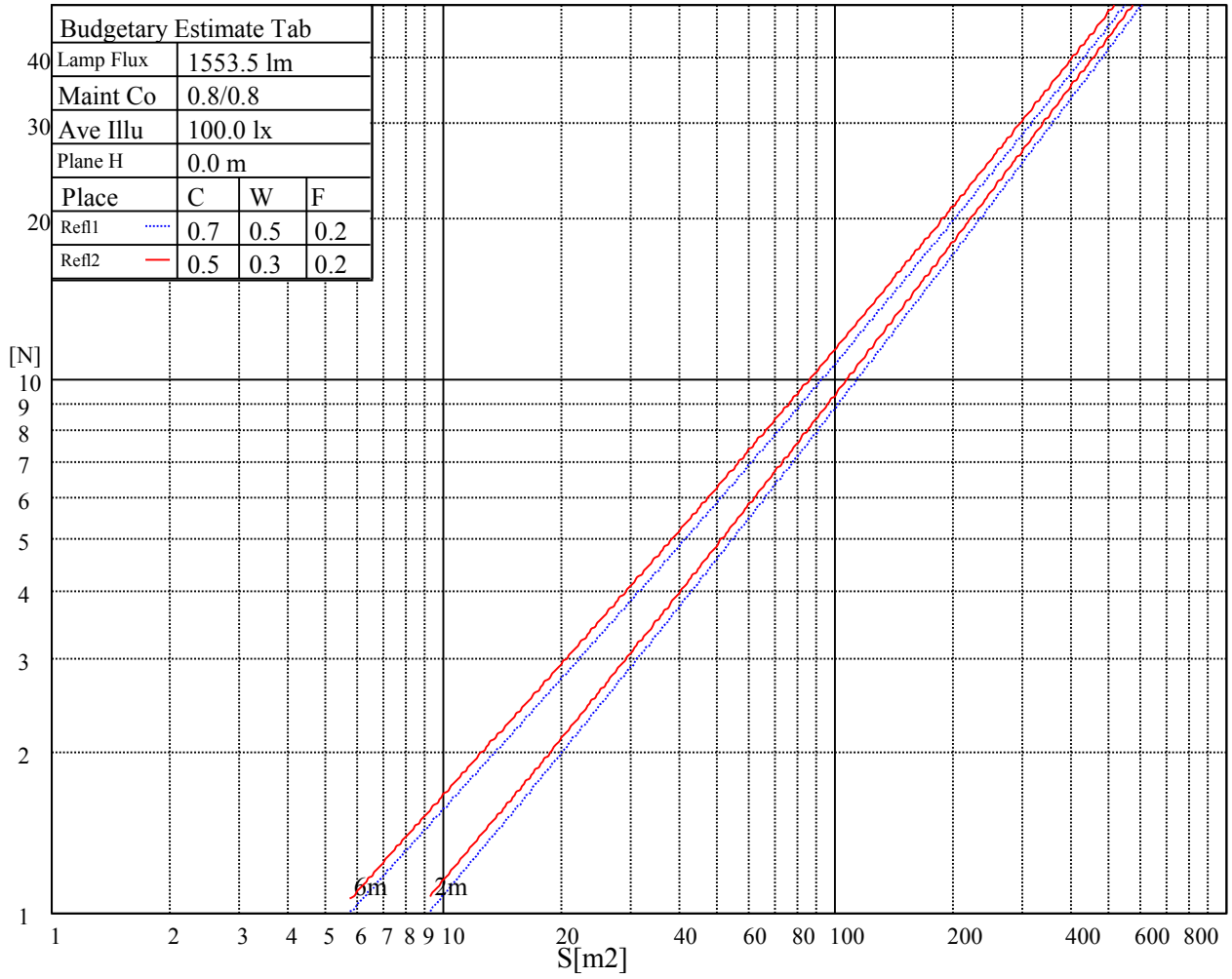
Glare Table

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

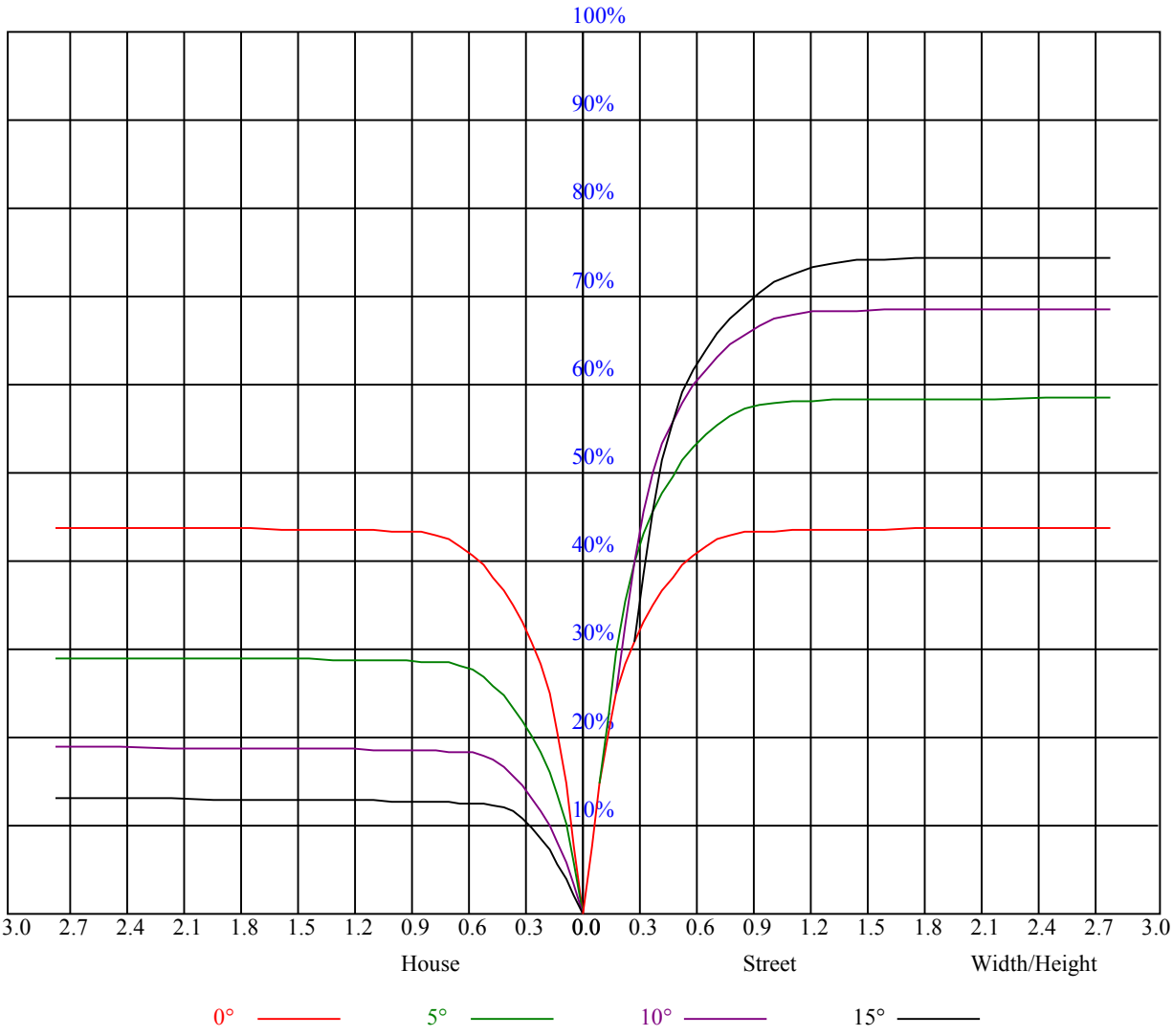


Equipment: GMS1980	Date: 2020/4/7	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	1.05	1.05	1.05	1.03	1.03	1.03	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.88
1	0.99	0.97	0.95	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84
2	0.93	0.90	0.88	0.92	0.89	0.87	0.89	0.87	0.85	0.86	0.85	0.83	0.84	0.83	0.81	0.80
3	0.88	0.85	0.82	0.87	0.84	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.81	0.79	0.78	0.76
4	0.84	0.80	0.77	0.83	0.80	0.77	0.82	0.78	0.76	0.80	0.77	0.75	0.78	0.76	0.74	0.73
5	0.81	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.73	0.71	0.70
6	0.77	0.73	0.70	0.77	0.73	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.67
7	0.74	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.65
8	0.71	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.63	0.62
9	0.69	0.65	0.62	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
10	0.67	0.63	0.60	0.66	0.62	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.58

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2020/4/7	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	6904.13	7577.44	7260.75	6949.13	6858.00	6524.44	6001.31	5445.00	4815.56
45.0	7835.63	7781.06	7618.50	7348.50	6901.31	6414.19	5754.38	4978.13	4150.13
90.0	7694.44	7548.19	7261.88	6892.88	6336.56	5743.13	4966.88	4147.88	3472.31
135.0	7845.19	7786.69	7611.19	7260.19	6795.00	6128.44	5349.94	4600.69	3861.56
180.0	6904.13	7114.50	7099.88	7092.56	6452.44	5707.13	5020.88	4061.81	3544.31
225.0	7835.63	7895.25	7818.75	7550.44	7094.81	6640.31	5799.94	5102.44	4356.00
270.0	7694.44	7719.75	7701.75	7561.69	7327.13	7002.00	6364.69	5732.44	5069.81
315.0	7845.19	7828.31	7744.50	7543.13	7200.56	6778.13	6266.81	5516.44	4846.50
360.0	6904.13	7577.44	7260.75	6949.13	6858.00	6524.44	6001.31	5445.00	4815.56

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3960.56	3314.25	2759.63	2229.75	1865.25	1600.31	1272.94	1149.75	1040.63
45.0	3417.75	2770.31	2322.00	1943.44	1586.81	1370.25	1199.81	1074.38	956.81
90.0	2778.75	2214.56	1848.94	1564.31	1230.75	1121.74	994.78	888.98	808.37
135.0	3030.75	2476.13	2035.69	1658.25	1374.75	1180.13	1015.31	897.75	820.69
180.0	2885.06	2190.38	1852.88	1536.19	1112.74	1064.53	908.49	787.50	708.24
225.0	3458.81	2813.06	2280.94	1804.50	1504.13	1117.13	1098.62	953.94	843.41
270.0	4304.25	3538.69	2913.75	2347.31	1948.50	1602.00	1341.00	1164.94	1013.63
315.0	4149.56	3335.06	2779.88	2319.19	1906.31	1593.56	1380.94	1117.52	1053.96
360.0	3960.56	3314.25	2759.63	2229.75	1865.25	1600.31	1272.94	1149.75	1040.63

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	894.38	838.69	747.00	712.69	671.63	640.69	609.19	592.31	574.88
45.0	871.88	807.75	751.50	711.56	674.44	648.56	625.50	609.19	595.13
90.0	752.51	703.97	666.68	644.68	622.35	606.04	589.95	574.59	560.25
135.0	750.94	711.56	675.00	646.88	626.06	605.25	587.81	573.75	561.38
180.0	659.64	621.90	606.26	578.64	565.88	552.77	534.60	510.69	503.83
225.0	774.62	717.08	685.13	651.66	625.95	608.79	587.48	566.16	551.31
270.0	911.25	819.56	754.31	695.81	660.94	635.06	607.50	588.38	572.06
315.0	937.86	849.21	788.34	734.91	692.72	662.79	638.89	615.49	599.79
360.0	894.38	838.69	747.00	712.69	671.63	640.69	609.19	592.31	574.88

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	559.69	534.38	525.94	513.56	500.63	489.38	476.44	450.56	416.81
45.0	582.19	563.06	550.69	537.19	522.00	510.19	486.56	444.94	395.44
90.0	549.39	531.84	518.91	508.05	490.16	460.80	422.55	366.64	320.79
135.0	545.63	533.81	523.13	511.88	495.56	465.19	422.44	371.25	323.44
180.0	499.05	492.13	483.41	479.25	461.64	421.54	354.54	337.28	288.28
225.0	536.57	522.17	515.42	507.54	493.43	466.37	431.94	384.81	333.62
270.0	558.00	540.00	529.31	518.06	505.13	495.00	481.50	450.00	406.69
315.0	585.00	569.36	554.40	541.13	527.29	514.18	501.86	471.54	432.96
360.0	559.69	534.38	525.94	513.56	500.63	489.38	476.44	450.56	416.81

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	370.69	327.38	286.88	219.54	175.67	132.53	82.63	50.12	25.54
45.0	350.44	297.56	285.19	189.28	140.40	96.19	53.10	26.27	19.52
90.0	274.73	213.81	172.41	119.98	73.13	41.46	23.40	17.89	14.40
135.0	293.63	220.61	165.49	126.84	77.91	43.37	23.91	18.45	15.08
180.0	241.54	193.95	146.87	101.19	64.74	33.41	20.81	16.09	13.22
225.0	285.19	231.92	185.51	135.11	89.21	54.45	29.93	20.93	17.16
270.0	362.25	309.38	285.75	204.53	154.01	111.21	72.23	36.28	22.44
315.0	383.06	329.12	279.90	223.14	174.99	123.30	82.07	40.56	23.91
360.0	370.69	327.38	286.88	219.54	175.67	132.53	82.63	50.12	25.54

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	17.33	13.84	10.63	9.39	8.44	7.88	7.65	7.43	7.14
45.0	15.58	11.25	9.96	9.28	8.55	8.21	7.99	7.76	7.48
90.0	11.36	9.96	9.28	8.61	8.27	7.99	7.71	7.54	7.37
135.0	12.04	10.41	9.68	8.94	8.38	8.04	7.88	7.65	7.43
180.0	10.97	10.13	9.23	8.38	8.04	7.65	7.48	7.26	7.14
225.0	13.33	10.86	10.13	9.45	8.66	8.04	7.71	7.48	7.37
270.0	18.62	13.33	10.46	9.51	8.83	8.16	7.82	7.59	7.37
315.0	18.84	14.18	10.29	9.45	8.89	8.38	8.04	7.82	7.59
360.0	17.33	13.84	10.63	9.39	8.44	7.88	7.65	7.43	7.14

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.03	6.81	6.53	6.53	6.41	6.24	6.08	5.96	5.46
45.0	7.31	7.14	6.98	6.81	6.69	6.53	6.41	6.30	6.24
90.0	7.09	6.92	6.81	6.69	6.58	6.47	6.41	6.36	6.19
135.0	7.31	7.14	6.98	6.86	6.69	6.58	6.53	6.41	6.30
180.0	6.98	6.81	6.64	6.53	5.96	6.24	6.13	6.08	6.02
225.0	7.14	6.98	6.92	6.69	6.47	6.41	6.24	6.19	6.13
270.0	7.14	6.98	6.81	6.69	6.58	6.41	6.30	6.13	6.08
315.0	7.37	7.20	7.03	6.92	6.75	6.64	6.47	6.36	6.24
360.0	7.03	6.81	6.53	6.53	6.41	6.24	6.08	5.96	5.46

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.57	5.51	5.46	5.46	5.40	5.34	5.40	5.34	5.34
45.0	6.13	6.08	5.96	5.96	5.85	5.85	5.79	5.74	5.68
90.0	6.08	6.08	6.02	5.96	5.91	5.79	5.79	5.74	5.68
135.0	6.24	6.13	6.13	6.08	6.02	5.96	5.96	5.85	5.85
180.0	5.91	5.96	5.85	5.79	5.68	5.74	5.68	5.63	5.57
225.0	6.13	6.02	5.96	5.91	5.85	5.85	5.74	5.74	5.68
270.0	5.96	5.96	5.91	5.85	5.85	5.74	5.74	5.68	5.68
315.0	6.19	6.13	6.08	6.02	5.96	5.91	5.91	5.91	5.79
360.0	5.57	5.51	5.46	5.46	5.40	5.34	5.40	5.34	5.34

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	4.84	4.89	5.18	5.23	5.23	5.23	5.23
45.0	5.68	5.68	5.63	5.57	5.57	5.51	5.51	5.51	5.46
90.0	5.68	5.63	5.63	5.57	5.57	5.57	5.57	5.51	5.51
135.0	5.79	5.79	5.74	5.68	5.68	5.68	5.68	5.63	5.57
180.0	5.51	5.46	5.51	5.40	5.34	5.68	5.79	5.40	5.46
225.0	5.68	5.63	5.57	5.57	5.57	5.57	5.57	5.51	5.46
270.0	5.63	5.63	5.57	5.57	5.51	5.57	5.51	5.51	5.46
315.0	5.74	5.74	5.74	5.68	5.68	5.68	5.63	5.63	5.63
360.0	5.34	5.34	4.84	4.89	5.18	5.23	5.23	5.23	5.23

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.18	5.18	5.18	5.12	4.73	4.89	5.12	5.12	5.12
45.0	5.51	5.46	5.46	5.46	5.40	5.40	5.40	5.34	5.40
90.0	5.51	5.51	5.40	5.51	5.46	5.46	5.46	5.40	5.46
135.0	5.63	5.57	5.57	5.51	5.51	5.51	5.46	5.46	5.46
180.0	5.40	5.40	5.46	5.46	5.46	5.40	5.34	5.40	5.34
225.0	5.46	5.46	5.46	5.40	5.46	5.34	5.40	5.40	5.40
270.0	5.46	5.40	5.40	5.40	5.34	5.40	5.23	5.29	5.51
315.0	5.63	5.57	5.57	5.57	5.63	5.74	5.63	5.51	5.51
360.0	5.18	5.18	5.18	5.12	4.73	4.89	5.12	5.12	5.12

Intensity data(cd)

C/γ(°)	90.0
0.0	5.12
45.0	5.34
90.0	5.40
135.0	5.46
180.0	5.68
225.0	5.46
270.0	5.46
315.0	5.51
360.0	5.12