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Nata

LumCAT: 3-1546-A3
Luminaire: 99.02.73.172+92.76.365.00

Report No: 200407-B008	Voltage(V): 33.2400
Test No: 200407-C008	Current(A): 0.3490
LampCAT: LUMINUS CXM-14-AC40	Power (W): 11.6010
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): 1406.49
Efficiency(%): 90.54%
Lumens(lm)/Power(W): 121.24
Central intensity(cd): 4725.281
Maximum intensity(cd): 4725.281
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=26.5
[C90/270]Total=26.5
Field angle(10%Imax): [C0/180]Total=63.4
[C90/270]Total=63.4
Maximum s/h(1/2): C0_180=0.45 C90_270=0.45
Maximum s/h(1/4): C0_180=0.44 C90_270=0.44
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.54%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.688%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4725.281	0.000	0	.000%	.000%
1.0	4720.781	4.520	4.52	.291%	.321%
2.0	4695.750	13.516	18.035	.870%	1.282%
3.0	4642.242	22.333	40.369	1.438%	2.870%
4.0	4562.016	30.810	71.178	1.983%	5.061%
5.0	4426.172	38.667	109.845	2.489%	7.810%
6.0	4254.680	45.620	155.465	2.937%	11.053%
7.0	4064.766	51.639	207.104	3.324%	14.725%
8.0	3833.156	56.524	263.628	3.638%	18.744%
9.0	3564.844	59.957	323.585	3.859%	23.006%
10.0	3307.078	62.188	385.773	4.003%	27.428%
11.0	3023.156	63.252	449.025	4.072%	31.925%
12.0	2730.586	62.897	511.922	4.049%	36.397%
13.0	2442.516	61.392	573.313	3.952%	40.762%
14.0	2150.930	58.796	632.109	3.785%	44.942%
15.0	1886.484	55.427	687.536	3.568%	48.883%
16.0	1633.711	51.581	739.117	3.320%	52.550%
17.0	1388.011	47.056	786.173	3.029%	55.896%
18.0	1202.245	42.708	828.881	2.749%	58.932%
19.0	1048.957	39.166	868.047	2.521%	61.717%
20.0	923.358	36.099	904.146	2.324%	64.284%
21.0	816.863	33.416	937.562	2.151%	66.659%
22.0	737.888	31.243	968.805	2.011%	68.881%
23.0	677.644	29.702	998.507	1.912%	70.993%
24.0	633.741	28.672	1027.179	1.846%	73.031%
25.0	603.759	28.138	1055.317	1.811%	75.032%
26.0	580.620	27.957	1083.274	1.800%	77.019%
27.0	562.085	27.957	1111.231	1.800%	79.007%
28.0	546.659	28.071	1139.302	1.807%	81.003%
29.0	532.709	28.239	1167.541	1.818%	83.011%
30.0	517.767	28.363	1195.904	1.826%	85.027%
31.0	495.443	28.196	1224.1	1.815%	87.032%
32.0	462.157	27.434	1251.534	1.766%	88.982%
33.0	414.844	25.837	1277.371	1.663%	90.819%
34.0	358.903	23.416	1300.786	1.507%	92.484%
35.0	302.822	20.551	1321.337	1.323%	93.945%
36.0	236.946	17.186	1338.524	1.106%	95.167%
37.0	178.256	13.542	1352.065	.872%	96.130%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	115.903	9.819	1361.884	.632%	96.828%
39.0	69.827	6.339	1368.223	.408%	97.279%
40.0	40.430	3.845	1372.069	.248%	97.552%
41.0	23.393	2.273	1374.341	.146%	97.714%
42.0	17.135	1.472	1375.814	.095%	97.819%
43.0	13.613	1.139	1376.953	.073%	97.900%
44.0	11.201	0.937	1377.889	.060%	97.966%
45.0	9.478	0.795	1378.684	.051%	98.023%
46.0	8.332	0.697	1379.381	.045%	98.072%
47.0	8.009	0.650	1380.03	.042%	98.118%
48.0	7.770	0.638	1380.668	.041%	98.164%
49.0	7.573	0.630	1381.298	.041%	98.209%
50.0	7.383	0.624	1381.922	.040%	98.253%
51.0	7.249	0.619	1382.541	.040%	98.297%
52.0	7.116	0.616	1383.157	.040%	98.341%
53.0	6.996	0.614	1383.771	.040%	98.384%
54.0	6.884	0.612	1384.383	.039%	98.428%
55.0	6.785	0.610	1384.993	.039%	98.471%
56.0	6.701	0.609	1385.602	.039%	98.515%
57.0	6.609	0.609	1386.211	.039%	98.558%
58.0	6.539	0.608	1386.819	.039%	98.601%
59.0	6.469	0.608	1387.427	.039%	98.644%
60.0	6.413	0.609	1388.036	.039%	98.688%
61.0	6.349	0.609	1388.645	.039%	98.731%
62.0	6.314	0.610	1389.255	.039%	98.774%
63.0	6.258	0.611	1389.866	.039%	98.818%
64.0	6.223	0.612	1390.479	.039%	98.861%
65.0	6.173	0.613	1391.092	.039%	98.905%
66.0	6.110	0.613	1391.705	.039%	98.948%
67.0	6.068	0.612	1392.317	.039%	98.992%
68.0	6.040	0.613	1392.931	.039%	99.036%
69.0	5.991	0.614	1393.545	.040%	99.079%
70.0	5.963	0.614	1394.158	.040%	99.123%
71.0	5.920	0.614	1394.773	.040%	99.167%
72.0	5.899	0.615	1395.387	.040%	99.210%
73.0	5.878	0.616	1396.003	.040%	99.254%
74.0	5.857	0.617	1396.62	.040%	99.298%
75.0	5.829	0.617	1397.237	.040%	99.342%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.794	0.617	1397.854	.040%	99.386%
77.0	5.794	0.618	1398.472	.040%	99.430%
78.0	5.759	0.618	1399.091	.040%	99.474%
79.0	5.738	0.618	1399.708	.040%	99.517%
80.0	5.716	0.618	1400.326	.040%	99.561%
81.0	5.702	0.618	1400.943	.040%	99.605%
82.0	5.695	0.618	1401.561	.040%	99.649%
83.0	5.688	0.619	1402.18	.040%	99.693%
84.0	5.674	0.619	1402.799	.040%	99.737%
85.0	5.660	0.619	1403.418	.040%	99.781%
86.0	5.639	0.618	1404.035	.040%	99.825%
87.0	5.625	0.616	1404.652	.040%	99.869%
88.0	5.611	0.615	1405.267	.040%	99.913%
89.0	5.590	0.614	1405.881	.040%	99.956%
90.0	5.597	0.613	1406.495	.039%	100.000%

Zonal flux distribution table

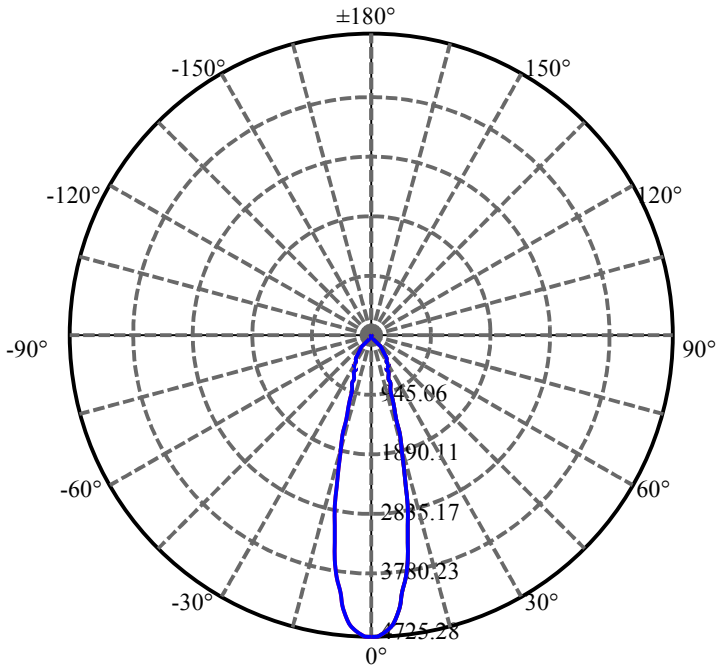
ZONAL LUMEN SUMMARY

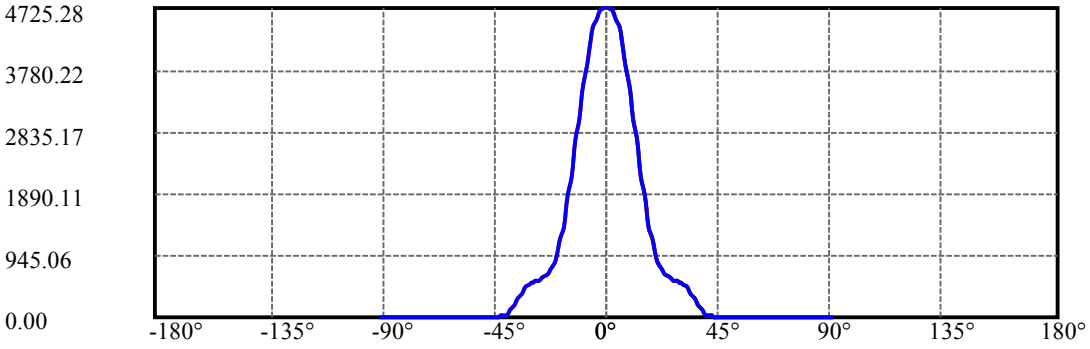
Zone	Lumens	%Lamp	%Fixt
0-30	1195.90	76.98%	85.03%
0-40	1372.07	88.32%	97.55%
0-60	1388.04	89.35%	98.69%
0-90	1405.88	90.50%	99.96%
0-120	1405.88	90.50%	99.96%
0-180	1406.49	90.54%	100.00%
60-90	18.45	1.19%	1.31%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.50	1125.20	72.43%	80.00%

ZONAL LUMEN SUMMARY

0-10	385.77
10-20	518.37
20-30	291.76
30-40	176.17
40-50	9.85
50-60	6.11
60-70	6.12
70-80	6.17
80-90	5.56
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):

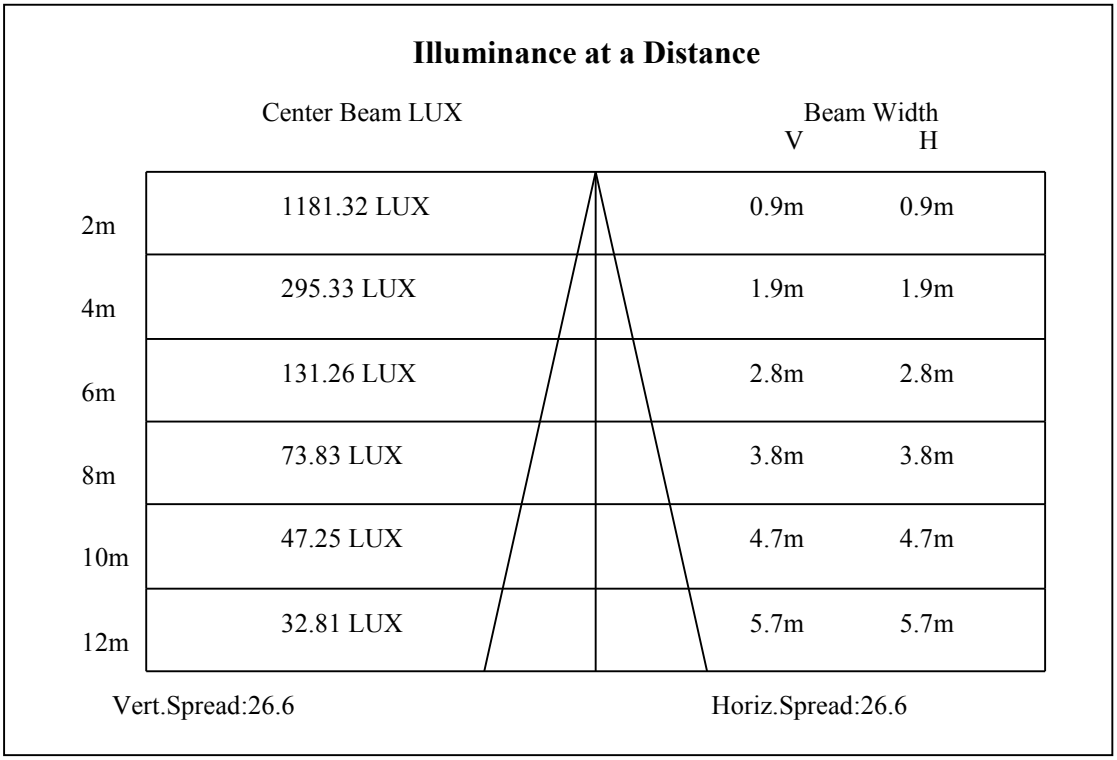
C0/C180:

C90/C270:

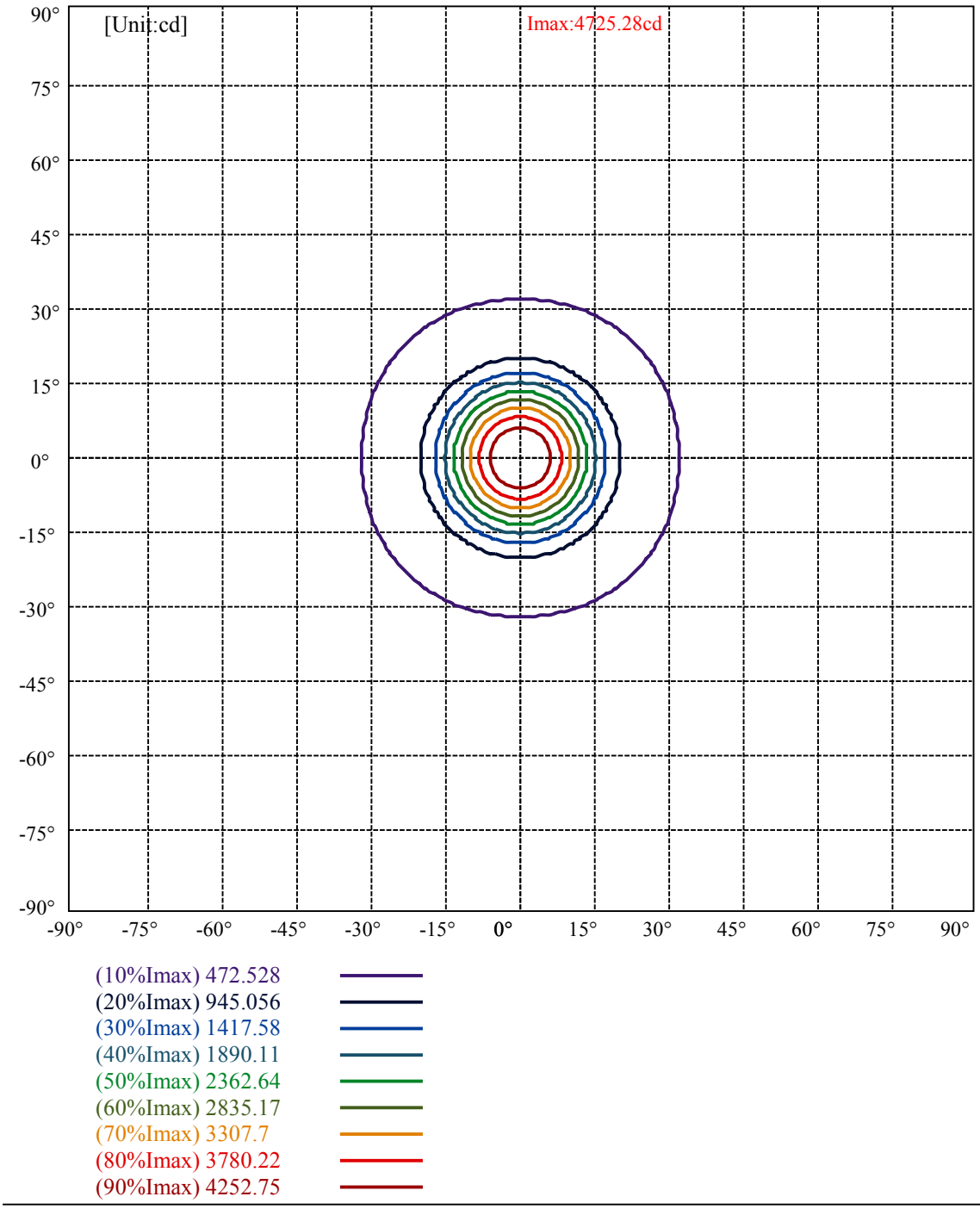
Field angle(10%Imax):C0/180Left:31.7 Right:31.7
:C90/270Left:31.7 Right:31.7

Beam Angle(50%Imax):C0/180Left:13.3 Right:13.3
:C90/270Left:13.3 Right:13.3

Lux distance Curve



ISO-Intensity(V-H)

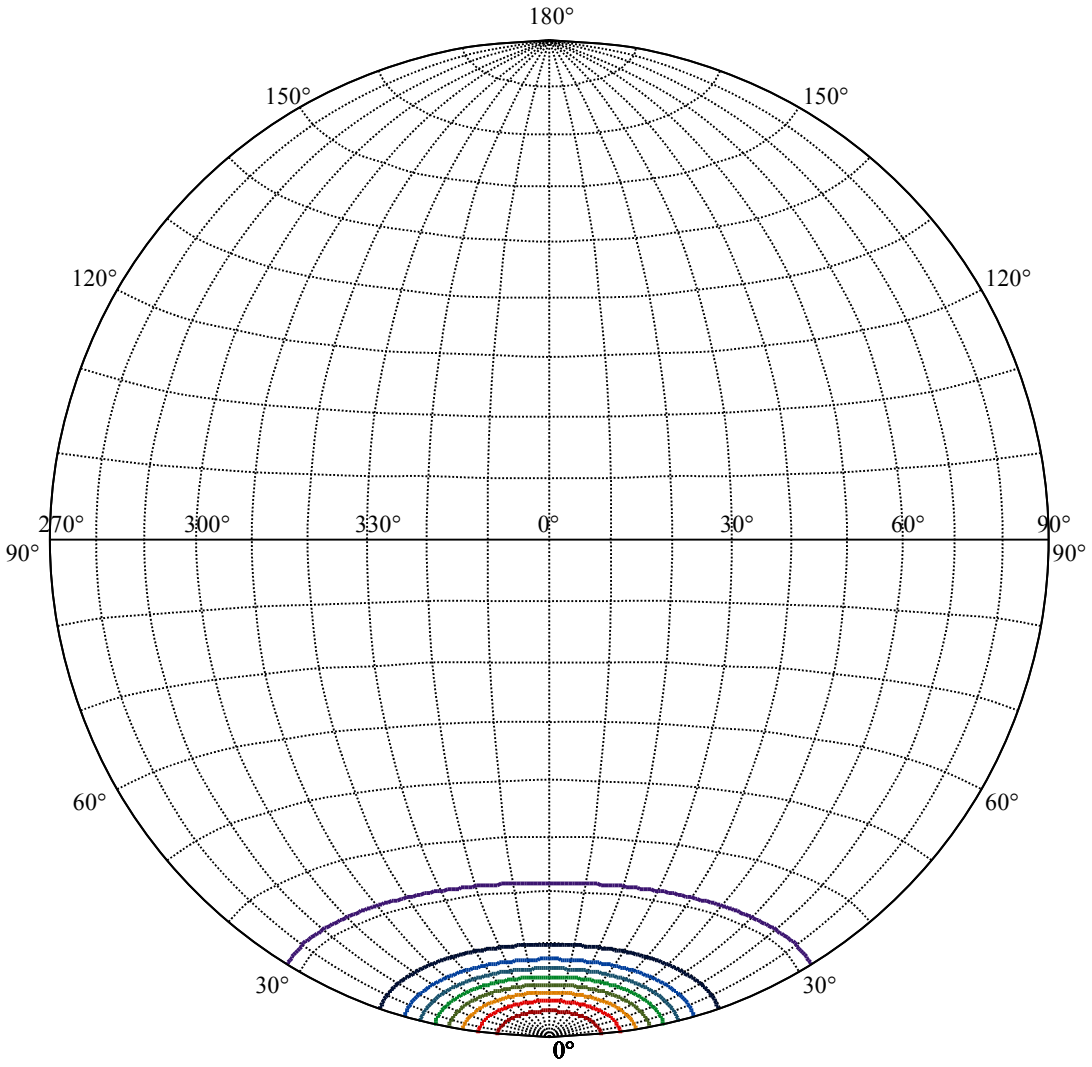


Equipment: GMS1980
Temperature(°C): 25.0

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

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:4725.28

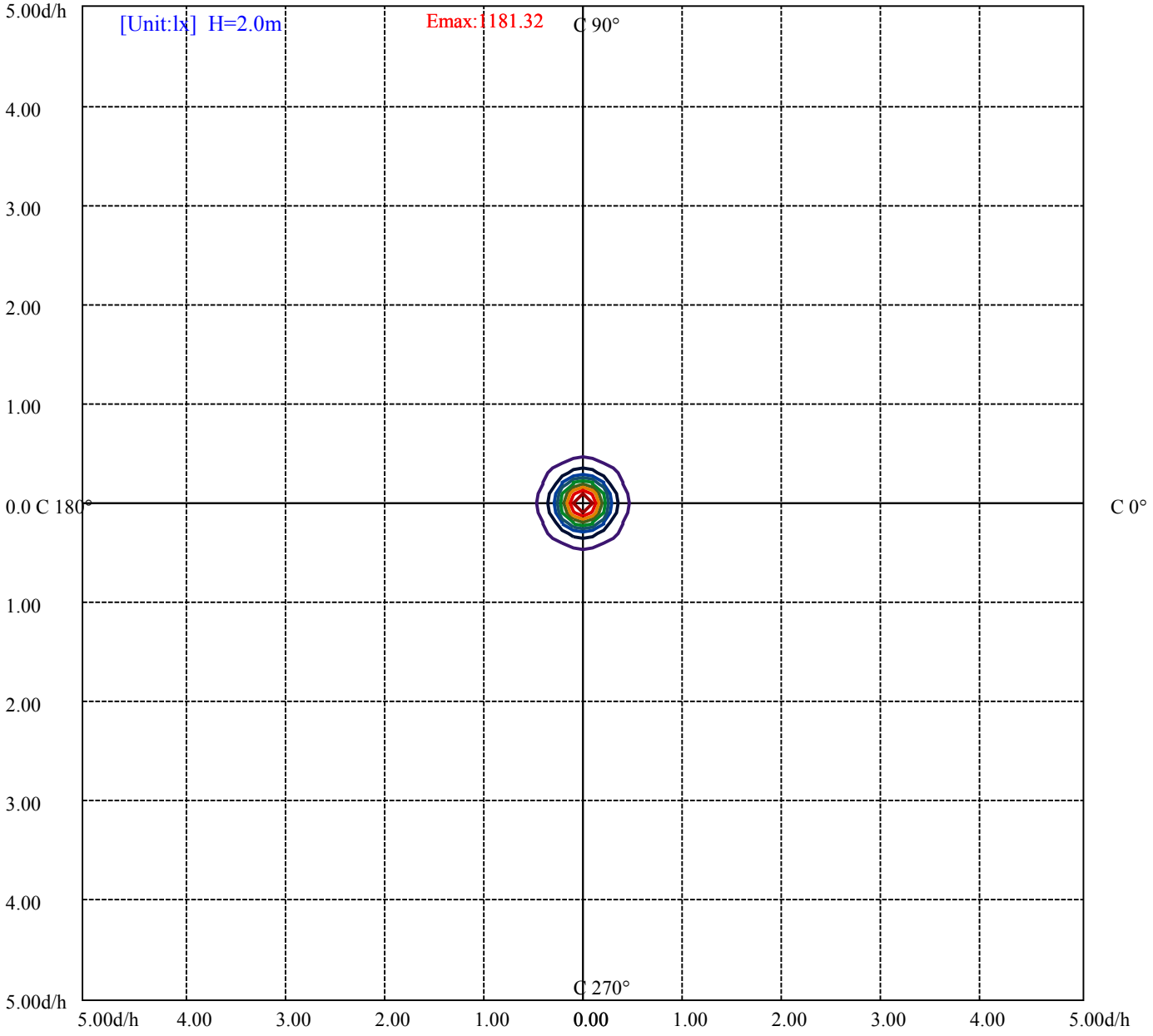
(10%Imax) 472.528
(20%Imax) 945.056
(30%Imax) 1417.58
(40%Imax) 1890.11
(50%Imax) 2362.64
(60%Imax) 2835.17
(70%Imax) 3307.7
(80%Imax) 3780.22
(90%Imax) 4252.75

Equipment: GMS1980
Temperature(°C): 25.0

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

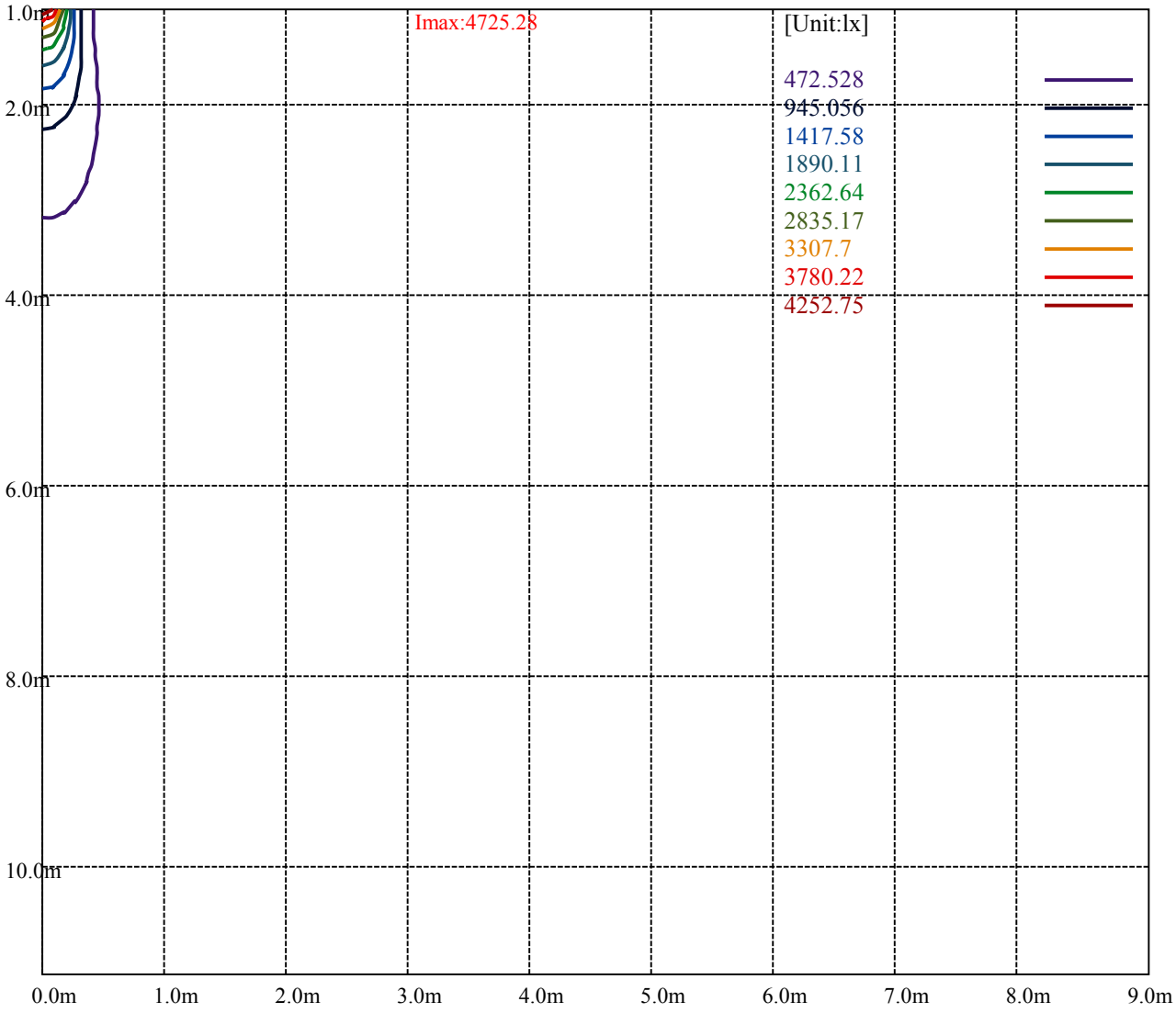
Operator: NT07
Distance(m): 7.50

ISO illuminance diagram



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

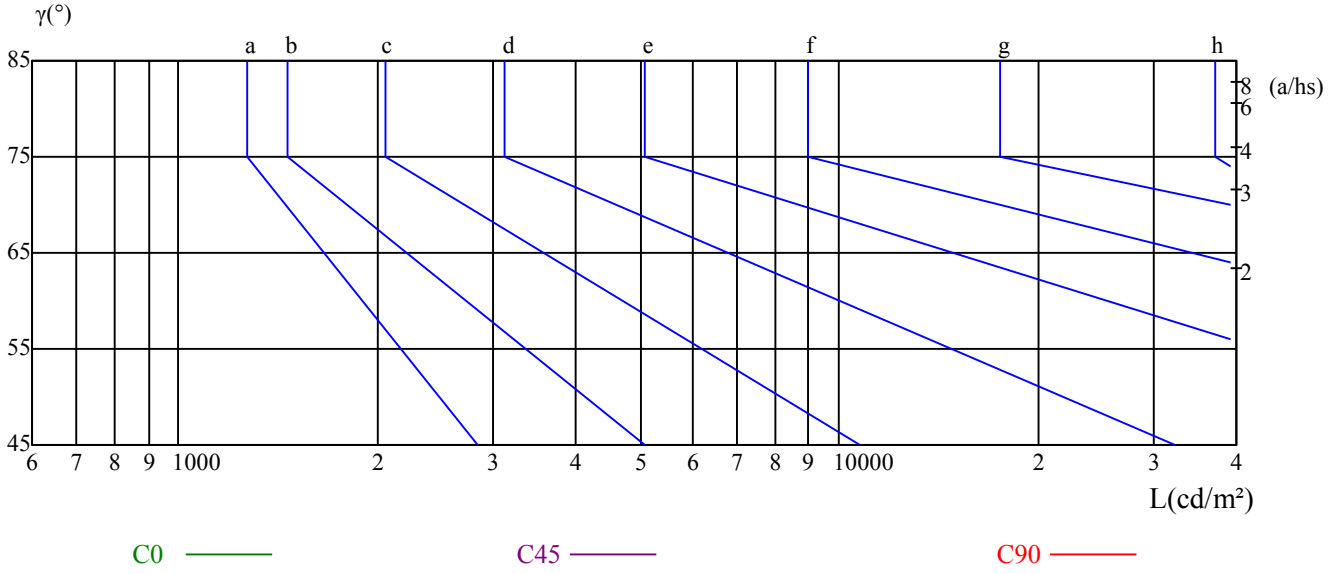
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

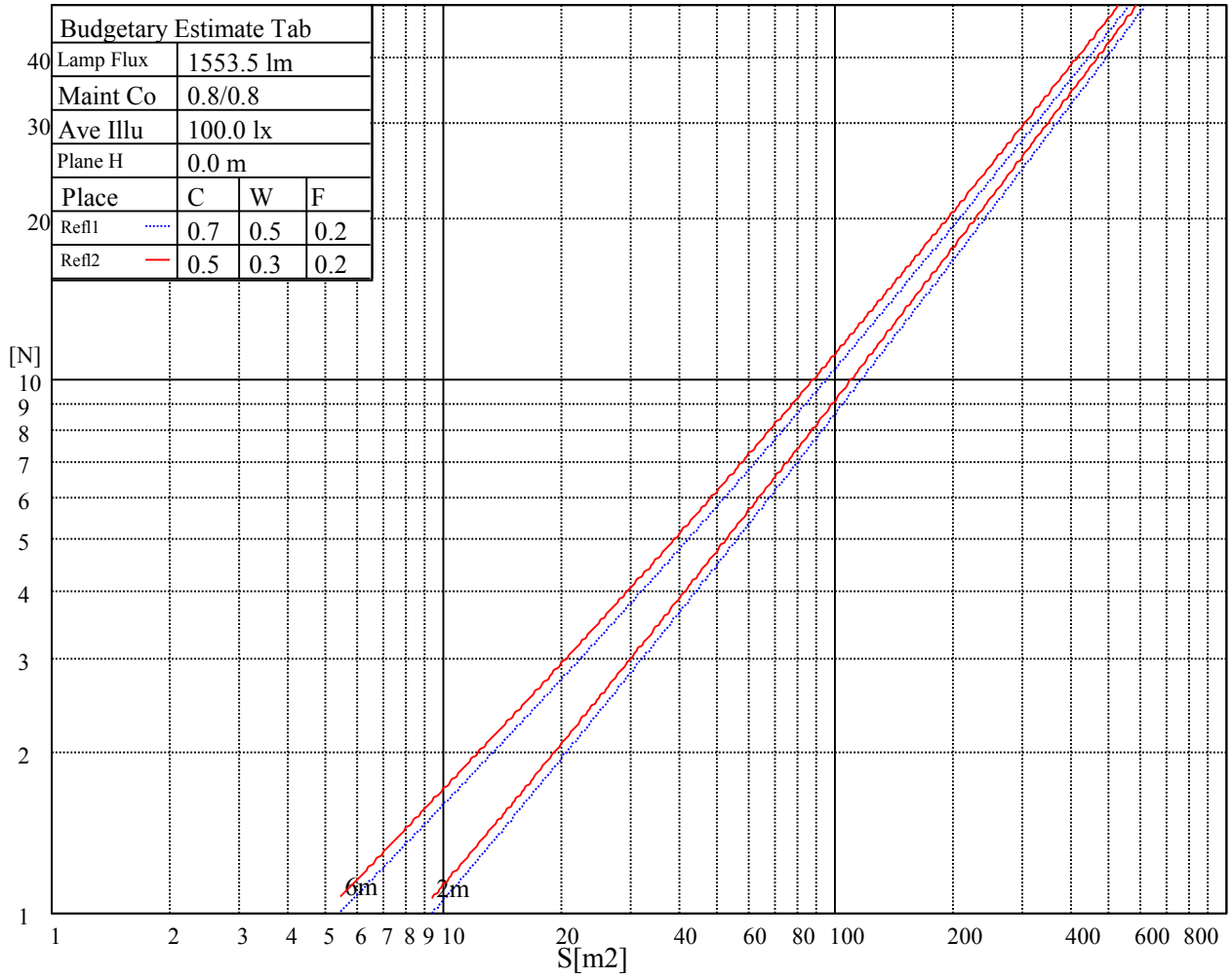
Glare Table

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

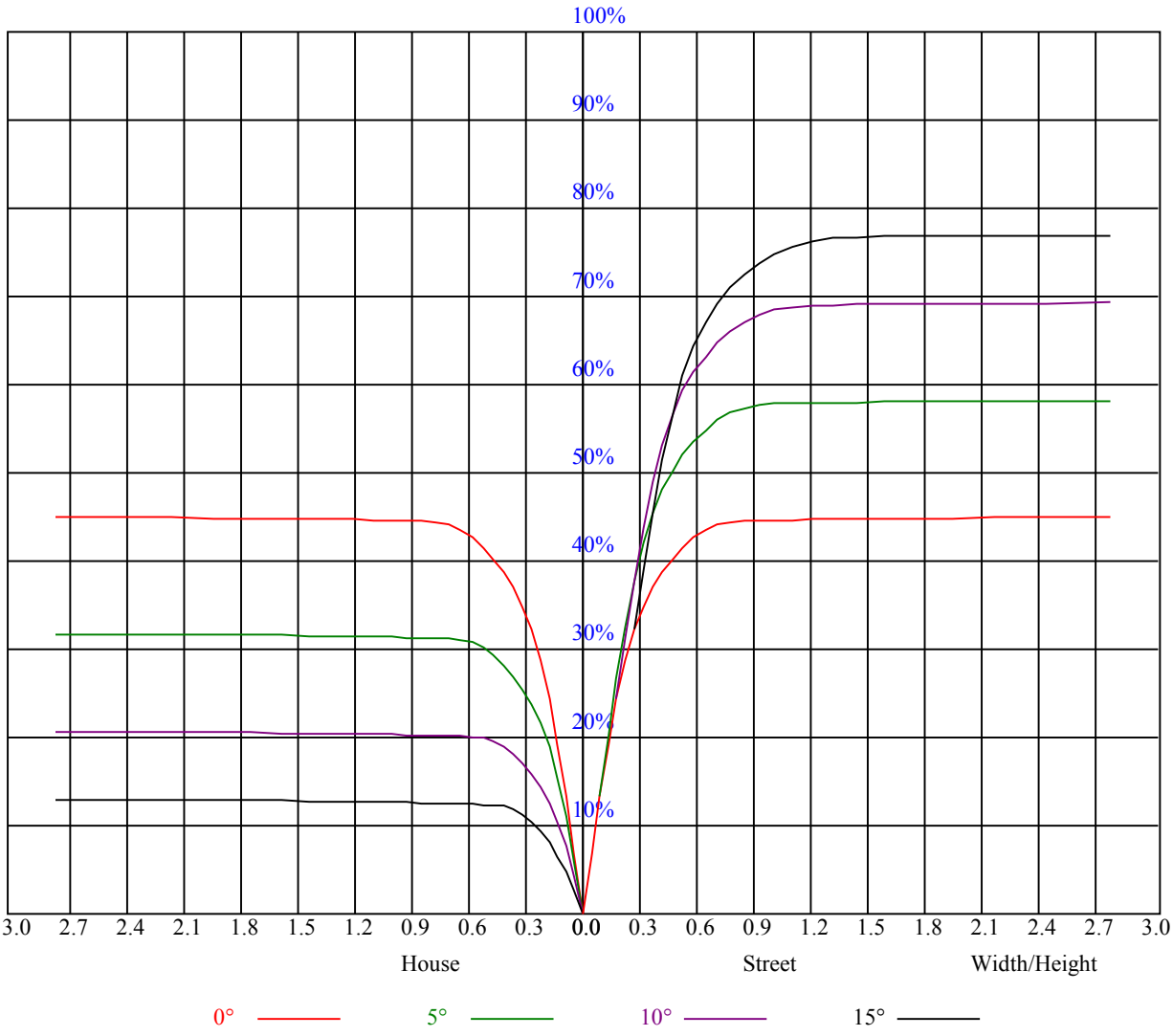


Equipment: GMS1980 Date: 2020/4/7 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.08	1.08	1.08	1.05	1.05	1.05	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.91
1	1.01	0.99	0.97	0.99	0.98	0.96	0.96	0.94	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.86
2	0.96	0.93	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.89	0.87	0.85	0.86	0.85	0.83	0.82
3	0.91	0.87	0.84	0.89	0.86	0.83	0.87	0.84	0.82	0.85	0.83	0.81	0.83	0.81	0.80	0.78
4	0.86	0.82	0.79	0.85	0.82	0.79	0.84	0.80	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
5	0.82	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.75	0.73	0.72
6	0.79	0.75	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
7	0.76	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
8	0.73	0.68	0.65	0.72	0.68	0.65	0.71	0.68	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.64
9	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.62	0.67	0.64	0.62	0.61
10	0.68	0.63	0.61	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.63	0.60	0.65	0.62	0.60	0.59

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	4722.19	4707.00	4672.13	4618.13	4530.94	4404.38	4203.00	4009.50	3793.50
45.0	4720.50	4741.31	4747.50	4734.00	4687.88	4583.25	4461.19	4300.88	4055.63
90.0	4742.44	4776.75	4807.69	4809.38	4776.75	4694.63	4567.50	4412.81	4191.75
135.0	4716.00	4761.00	4789.13	4801.50	4782.38	4728.94	4626.56	4468.50	4295.81
180.0	4722.19	4730.63	4715.44	4672.69	4599.56	4471.88	4300.88	4110.75	3865.50
225.0	4720.50	4689.56	4626.56	4527.00	4403.25	4222.69	4033.69	3791.81	3522.38
270.0	4742.44	4696.88	4614.19	4515.75	4383.56	4169.81	3972.94	3751.88	3512.81
315.0	4716.00	4663.13	4593.38	4459.50	4331.81	4133.81	3871.69	3672.00	3427.88
360.0	4722.19	4707.00	4672.13	4618.13	4530.94	4404.38	4203.00	4009.50	3793.50

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3497.06	3250.13	2997.56	2703.38	2398.50	2131.31	1850.06	1618.88	1386.00
45.0	3832.88	3583.69	3354.19	2982.38	2703.38	2454.75	2104.88	1814.63	1613.81
90.0	3962.25	3675.94	3373.31	3092.63	2804.63	2437.88	2149.88	1879.31	1574.44
135.0	4057.31	3815.44	3515.06	3270.94	2910.38	2581.88	2328.75	1985.63	1734.19
180.0	3618.00	3321.00	3016.13	2742.75	2432.25	2126.25	1866.38	1627.31	1356.19
225.0	3273.19	3014.44	2684.25	2419.88	2159.44	1851.19	1625.63	1416.94	1118.08
270.0	3201.75	2945.81	2656.69	2401.31	2118.38	1845.56	1623.38	1398.38	1208.25
315.0	3076.31	2850.19	2588.06	2231.44	2013.19	1778.63	1542.94	1328.63	1113.13
360.0	3497.06	3250.13	2997.56	2703.38	2398.50	2131.31	1850.06	1618.88	1386.00

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1194.75	1055.81	926.44	819.00	742.50	690.75	632.25	603.00	583.31
45.0	1339.31	1154.25	1028.81	881.44	787.50	716.06	655.31	619.88	592.88
90.0	1357.31	1108.18	983.42	868.11	778.73	697.67	656.66	617.91	587.76
135.0	1458.56	1243.69	1079.44	933.19	819.56	740.25	676.69	636.75	605.25
180.0	1107.34	1016.83	883.41	779.91	711.51	657.84	621.34	597.94	578.31
225.0	1051.37	936.06	828.62	751.28	687.38	642.21	612.79	588.71	570.60
270.0	1073.81	961.31	843.75	764.44	702.00	646.88	614.81	591.19	570.38
315.0	1035.51	915.53	812.98	737.55	673.93	629.49	600.08	574.71	556.48
360.0	1194.75	1055.81	926.44	819.00	742.50	690.75	632.25	603.00	583.31

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	560.25	542.81	530.44	515.25	500.06	470.25	412.31	357.19	298.69
45.0	568.69	552.94	538.88	521.44	509.06	495.56	457.88	401.63	344.25
90.0	571.84	554.79	536.51	524.48	512.10	493.31	464.01	417.94	356.68
135.0	582.75	568.13	555.75	538.88	526.50	514.13	481.50	436.50	383.06
180.0	564.36	550.18	534.43	521.83	509.63	472.67	426.04	373.11	302.63
225.0	556.82	542.19	526.95	514.80	486.73	435.66	372.94	314.16	247.39
270.0	552.94	538.31	525.38	512.44	475.31	421.88	367.31	308.25	286.88
315.0	539.04	523.91	513.34	493.03	444.15	393.81	336.77	262.46	203.01
360.0	560.25	542.81	530.44	515.25	500.06	470.25	412.31	357.19	298.69

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	246.32	165.26	111.77	55.24	27.34	20.81	15.13	11.98	10.86
45.0	286.31	218.76	154.46	95.91	53.83	25.82	19.58	14.57	11.53
90.0	291.94	233.21	168.41	107.55	62.16	29.36	21.71	15.64	12.32
135.0	325.13	289.69	193.22	138.09	80.78	38.19	22.67	16.82	12.49
180.0	244.91	186.64	119.08	71.78	35.94	21.94	17.44	13.16	11.53
225.0	181.13	125.44	70.71	36.90	22.73	18.39	14.74	13.16	10.69
270.0	173.87	118.24	64.52	29.36	21.32	17.61	13.56	12.38	11.03
315.0	145.97	88.82	45.06	23.79	19.35	15.02	12.26	11.19	9.17
360.0	246.32	165.26	111.77	55.24	27.34	20.81	15.13	11.98	10.86

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	9.23	8.04	7.76	7.54	7.37	7.20	7.09	6.98	6.81
45.0	9.73	8.16	7.88	7.59	7.43	7.26	7.09	6.98	6.86
90.0	10.46	8.27	7.93	7.71	7.48	7.26	7.14	7.03	6.92
135.0	10.86	8.61	8.04	7.82	7.59	7.37	7.26	7.09	6.98
180.0	9.34	8.33	7.99	7.76	7.59	7.43	7.26	7.14	6.98
225.0	8.78	8.44	8.16	7.93	7.71	7.54	7.43	7.26	7.14
270.0	8.94	8.61	8.33	8.10	7.88	7.65	7.48	7.37	7.26
315.0	8.49	8.21	7.99	7.71	7.54	7.37	7.26	7.09	7.03
360.0	9.23	8.04	7.76	7.54	7.37	7.20	7.09	6.98	6.81

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	6.75	6.69	6.58	6.47	6.47	6.41	6.30	6.30	6.24
45.0	6.75	6.69	6.58	6.47	6.41	6.36	6.36	6.24	6.24
90.0	6.81	6.69	6.64	6.53	6.47	6.36	6.36	6.24	6.24
135.0	6.86	6.75	6.69	6.64	6.53	6.41	6.36	6.36	6.24
180.0	6.86	6.75	6.69	6.58	6.53	6.53	6.41	6.36	6.30
225.0	7.03	6.92	6.81	6.75	6.64	6.58	6.53	6.47	6.41
270.0	7.14	7.03	6.92	6.81	6.75	6.64	6.58	6.47	6.47
315.0	6.86	6.75	6.69	6.64	6.53	6.47	6.41	6.36	6.36
360.0	6.75	6.69	6.58	6.47	6.47	6.41	6.30	6.30	6.24

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	6.19	6.13	6.08	6.02	6.02	5.96	5.91	5.85	5.85
45.0	6.19	6.13	6.13	6.08	6.02	6.02	5.96	5.91	5.91
90.0	6.19	6.13	6.13	6.08	6.02	5.96	5.96	5.91	5.91
135.0	6.24	6.19	6.13	6.08	6.02	6.02	5.96	5.96	5.91
180.0	6.24	6.24	6.19	6.13	6.08	6.02	5.96	5.96	5.91
225.0	6.36	6.36	6.30	6.19	6.13	6.13	6.08	6.08	5.96
270.0	6.36	6.36	6.30	6.24	6.19	6.19	6.13	6.08	6.02
315.0	6.30	6.24	6.13	6.08	6.08	6.02	5.96	5.96	5.91
360.0	6.19	6.13	6.08	6.02	6.02	5.96	5.91	5.85	5.85

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.85	5.79	5.79	5.74	5.74	5.74	5.74	5.68	5.68
45.0	5.91	5.85	5.85	5.85	5.79	5.79	5.74	5.74	5.74
90.0	5.85	5.85	5.85	5.79	5.74	5.74	5.74	5.74	5.68
135.0	5.91	5.85	5.79	5.79	5.79	5.79	5.74	5.74	5.68
180.0	5.85	5.91	5.85	5.85	5.79	5.79	5.74	5.74	5.74
225.0	5.96	5.96	5.91	5.91	5.85	5.85	5.79	5.79	5.74
270.0	6.02	5.96	5.96	5.91	5.85	5.85	5.85	5.79	5.79
315.0	5.85	5.85	5.85	5.79	5.79	5.79	5.74	5.68	5.68
360.0	5.85	5.79	5.79	5.74	5.74	5.74	5.74	5.68	5.68

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.68	5.68	5.68	5.63	5.63	5.63	5.63	5.63	5.57
45.0	5.74	5.68	5.74	5.68	5.68	5.68	5.63	5.63	5.63
90.0	5.74	5.68	5.68	5.63	5.63	5.63	5.63	5.63	5.63
135.0	5.68	5.68	5.68	5.68	5.63	5.63	5.63	5.63	5.57
180.0	5.68	5.68	5.68	5.68	5.63	5.63	5.63	5.57	5.57
225.0	5.74	5.74	5.74	5.74	5.74	5.68	5.68	5.63	5.63
270.0	5.68	5.74	5.68	5.74	5.74	5.63	5.63	5.63	5.57
315.0	5.68	5.68	5.63	5.63	5.63	5.63	5.57	5.57	5.57
360.0	5.68	5.68	5.68	5.63	5.63	5.63	5.63	5.63	5.57

Intensity data(cd)

C/γ(°)	90.0
0.0	5.63
45.0	5.63
90.0	5.57
135.0	5.57
180.0	5.63
225.0	5.63
270.0	5.57
315.0	5.57
360.0	5.63