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

Nata

LumCAT: 1405-N
Luminaire:92.70.064.00

Report No: NATA0100	Voltage(V): 33.6700
Test No: GC20190901	Current(A): 0.2970
LampCAT: XICATO XOB LES 9.8MM	Power (W): 10.0000
Lamp flux(lm): 1025.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 860.18
Efficiency(%): 83.92%
Lumens(lm)/Power(W): 86.02
Central intensity(cd): 1909.266
Maximum intensity(cd): 1909.266
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=24.6
[C90/270]Total=24.6
Field angle(10%Imax): [C0/180]Total=78.1
[C90/270]Total=78.1
Maximum s/h(1/2): C0_180=0.41 C90_270=0.41
Maximum s/h(1/4): C0_180=0.47 C90_270=0.47
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 83.92%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 94.387%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1909.266	0.000	0	.000%	.000%
1.0	1896.961	1.821	1.821	.178%	.212%
2.0	1867.641	5.403	7.225	.527%	.840%
3.0	1815.047	8.808	16.032	.859%	1.864%
4.0	1746.422	11.921	27.954	1.163%	3.250%
5.0	1670.977	14.701	42.655	1.434%	4.959%
6.0	1575.914	17.063	59.718	1.665%	6.943%
7.0	1473.609	18.928	78.647	1.847%	9.143%
8.0	1379.883	20.422	99.069	1.992%	11.517%
9.0	1263.213	21.421	120.49	2.090%	14.007%
10.0	1166.189	21.985	142.475	2.145%	16.563%
11.0	1069.833	22.342	164.817	2.180%	19.161%
12.0	980.501	22.413	187.23	2.187%	21.766%
13.0	889.580	22.193	209.423	2.165%	24.346%
14.0	811.730	21.777	231.2	2.125%	26.878%
15.0	740.187	21.305	252.505	2.079%	29.355%
16.0	675.134	20.738	273.244	2.023%	31.766%
17.0	620.993	20.184	293.428	1.969%	34.112%
18.0	570.656	19.648	313.076	1.917%	36.396%
19.0	528.778	19.128	332.204	1.866%	38.620%
20.0	491.963	18.682	350.886	1.823%	40.792%
21.0	459.900	18.278	369.164	1.783%	42.917%
22.0	432.703	17.937	387.101	1.750%	45.002%
23.0	410.752	17.698	404.799	1.727%	47.060%
24.0	389.377	17.494	422.293	1.707%	49.093%
25.0	370.645	17.281	439.574	1.686%	51.102%
26.0	355.437	17.139	456.713	1.672%	53.095%
27.0	340.755	17.032	473.746	1.662%	55.075%
28.0	326.377	16.890	490.636	1.648%	57.038%
29.0	313.966	16.753	507.389	1.634%	58.986%
30.0	302.091	16.633	524.022	1.623%	60.920%
31.0	289.673	16.468	540.49	1.607%	62.834%
32.0	277.959	16.262	556.752	1.587%	64.725%
33.0	266.752	16.047	572.8	1.566%	66.590%
34.0	254.489	15.774	588.574	1.539%	68.424%
35.0	242.002	15.419	603.993	1.504%	70.217%
36.0	230.133	15.033	619.026	1.467%	71.964%
37.0	217.793	14.609	633.635	1.425%	73.663%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	204.982	14.112	647.747	1.377%	75.303%
39.0	191.855	13.545	661.292	1.321%	76.878%
40.0	179.248	12.943	674.234	1.263%	78.383%
41.0	167.084	12.333	686.567	1.203%	79.816%
42.0	154.294	11.676	698.243	1.139%	81.174%
43.0	141.349	10.951	709.195	1.068%	82.447%
44.0	130.106	10.245	719.44	1.000%	83.638%
45.0	119.187	9.581	729.021	.935%	84.752%
46.0	108.422	8.901	737.922	.868%	85.787%
47.0	98.796	8.242	746.164	.804%	86.745%
48.0	90.534	7.654	753.818	.747%	87.634%
49.0	81.970	7.084	760.902	.691%	88.458%
50.0	74.116	6.508	767.409	.635%	89.215%
51.0	67.985	6.012	773.421	.587%	89.913%
52.0	62.058	5.580	779.002	.544%	90.562%
53.0	56.623	5.163	784.164	.504%	91.162%
54.0	52.073	4.791	788.955	.467%	91.719%
55.0	47.981	4.466	793.421	.436%	92.239%
56.0	44.311	4.170	797.592	.407%	92.723%
57.0	41.210	3.910	801.502	.381%	93.178%
58.0	38.236	3.674	805.176	.358%	93.605%
59.0	35.740	3.458	808.634	.337%	94.007%
60.0	33.483	3.270	811.905	.319%	94.387%
61.0	31.268	3.090	814.995	.301%	94.747%
62.0	29.468	2.927	817.921	.286%	95.087%
63.0	27.900	2.790	820.711	.272%	95.411%
64.0	26.198	2.655	823.366	.259%	95.720%
65.0	24.764	2.522	825.888	.246%	96.013%
66.0	23.513	2.409	828.297	.235%	96.293%
67.0	22.184	2.298	830.595	.224%	96.560%
68.0	21.030	2.189	832.784	.214%	96.815%
69.0	19.934	2.090	834.873	.204%	97.058%
70.0	18.872	1.993	836.866	.194%	97.289%
71.0	17.824	1.897	838.763	.185%	97.510%
72.0	16.847	1.803	840.566	.176%	97.719%
73.0	15.933	1.714	842.28	.167%	97.919%
74.0	15.138	1.633	843.913	.159%	98.108%
75.0	14.372	1.559	845.473	.152%	98.290%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	13.683	1.489	846.962	.145%	98.463%
77.0	13.120	1.429	848.391	.139%	98.629%
78.0	12.600	1.377	849.768	.134%	98.789%
79.0	12.087	1.326	851.094	.129%	98.943%
80.0	11.644	1.279	852.374	.125%	99.092%
81.0	11.074	1.229	853.602	.120%	99.235%
82.0	10.195	1.153	854.755	.113%	99.369%
83.0	9.070	1.047	855.803	.102%	99.491%
84.0	7.734	0.915	856.718	.089%	99.597%
85.0	6.905	0.799	857.517	.078%	99.690%
86.0	6.188	0.716	858.233	.070%	99.773%
87.0	5.126	0.619	858.852	.060%	99.845%
88.0	3.987	0.499	859.351	.049%	99.903%
89.0	3.769	0.425	859.776	.041%	99.953%
90.0	3.670	0.408	860.184	.040%	100.000%

Zonal flux distribution table

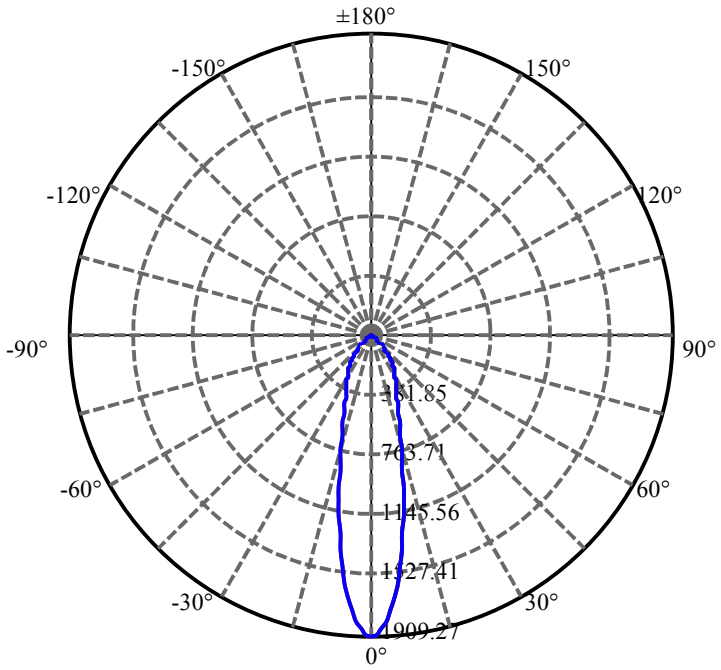
ZONAL LUMEN SUMMARY

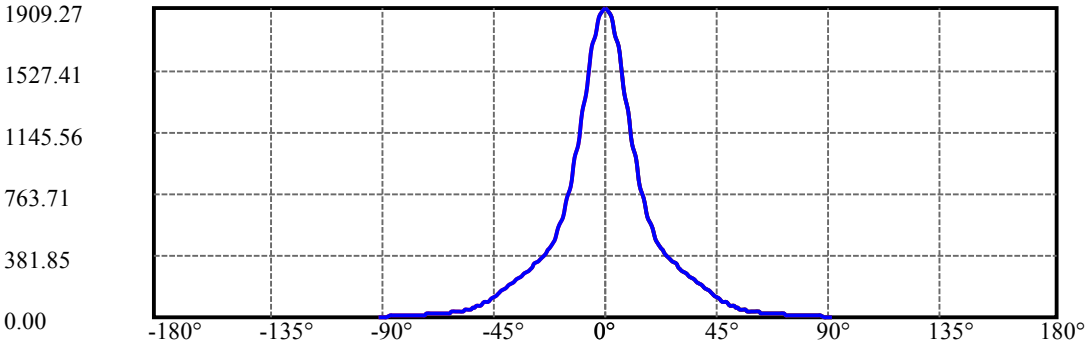
Zone	Lumens	%Lamp	%Fixt
0-30	524.02	51.12%	60.92%
0-40	674.23	65.78%	78.38%
0-60	811.90	79.21%	94.39%
0-90	859.78	83.88%	99.95%
0-120	859.78	83.88%	99.95%
0-180	860.18	83.92%	100.00%
60-90	51.14	4.99%	5.95%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-41.14	688.15	67.14%	80.00%

ZONAL LUMEN SUMMARY

0-10	142.47
10-20	208.41
20-30	173.14
30-40	150.21
40-50	93.17
50-60	44.50
60-70	24.96
70-80	15.51
80-90	7.40
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):

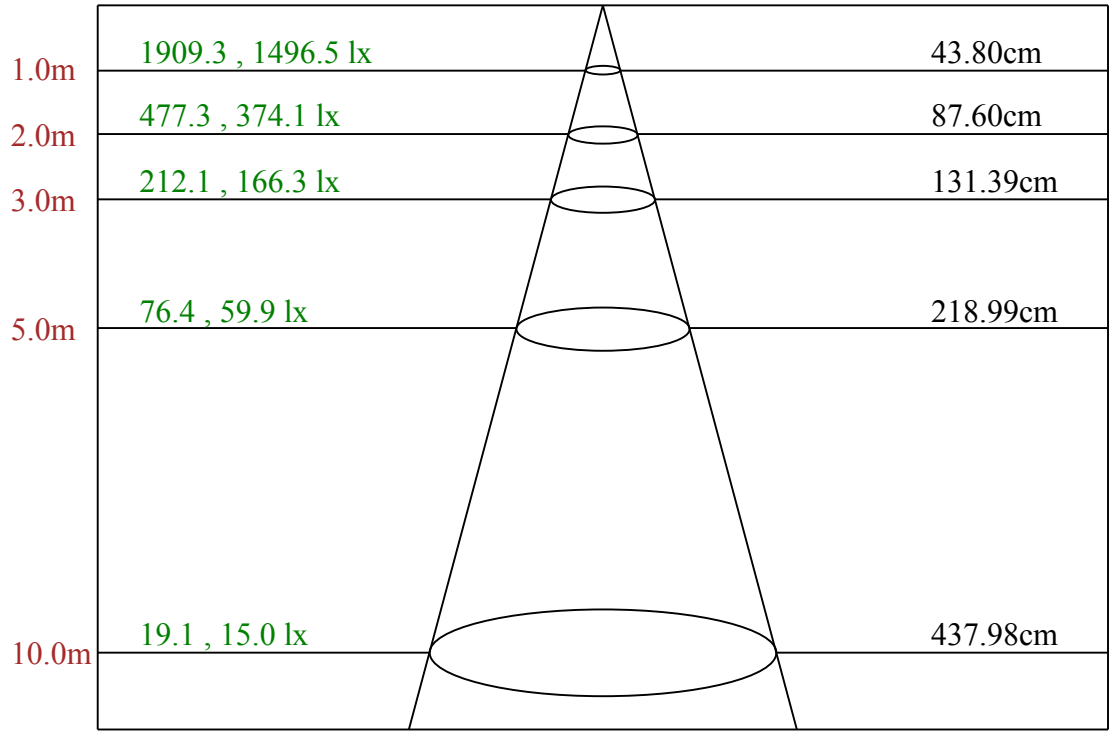
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:39.1 Right:39.1
:C90/270Left:39.1 Right:39.1

Beam Angle(50%Imax):C0/180Left:12.3 Right:12.3
:C90/270Left:12.3 Right:12.3

Lux distance Curve

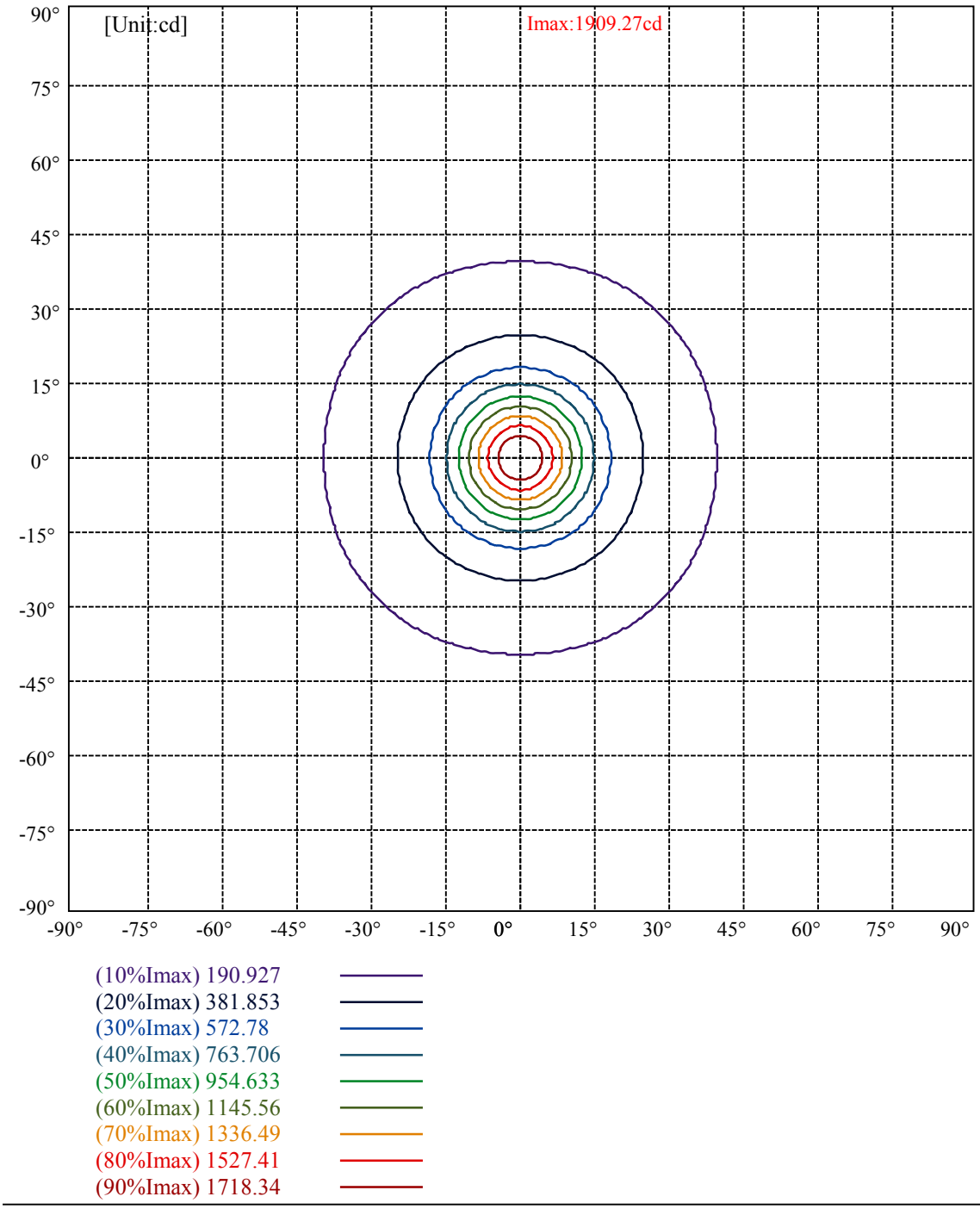


Max , Ave

Beam angle of C0 plane 24.70

Equipment: GMS1980	Date: 2019/9/2	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

ISO-Intensity(V-H)

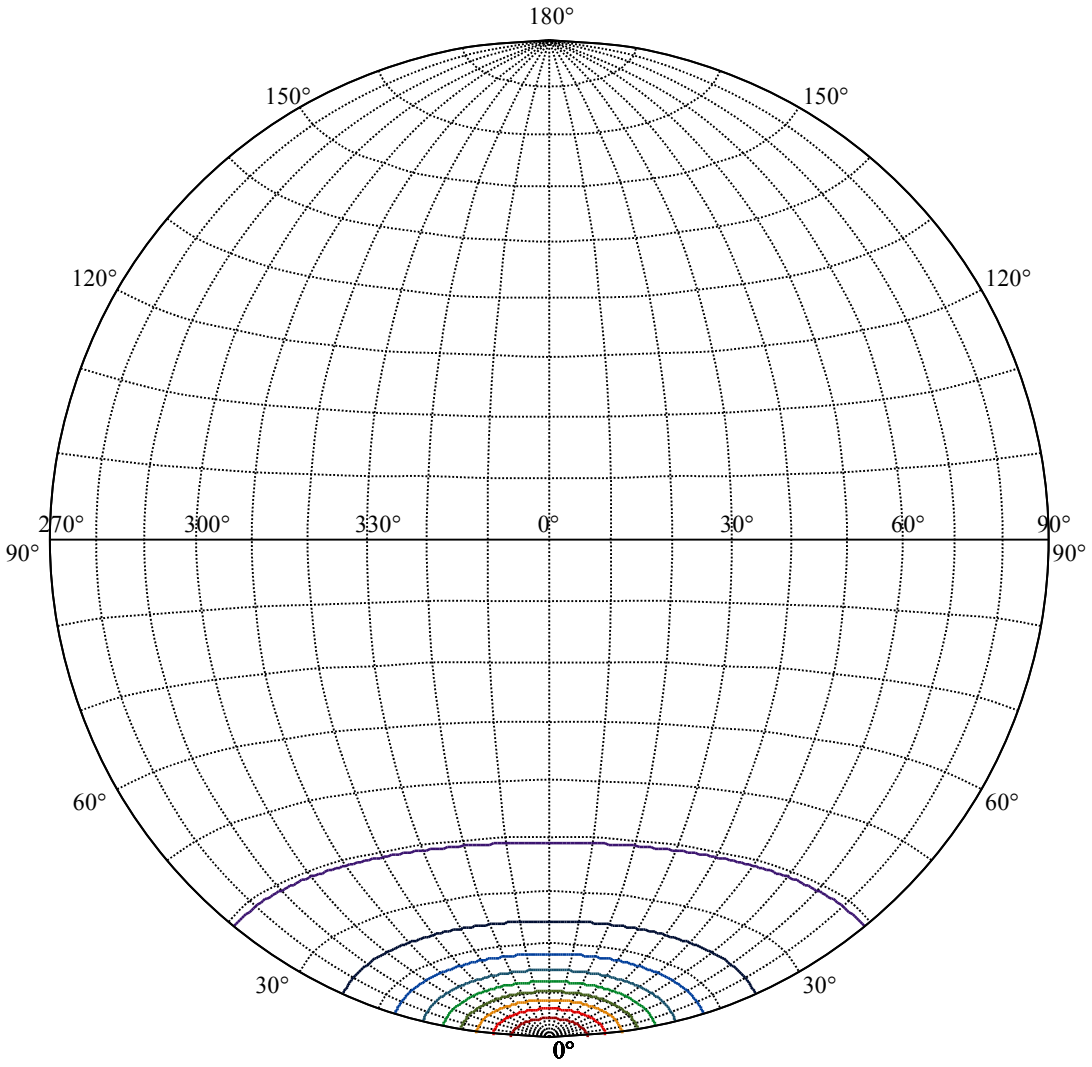


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/2
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:1909.27

(10%Imax) 190.927
(20%Imax) 381.853
(30%Imax) 572.78
(40%Imax) 763.706
(50%Imax) 954.633
(60%Imax) 1145.56
(70%Imax) 1336.49
(80%Imax) 1527.41
(90%Imax) 1718.34

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/2
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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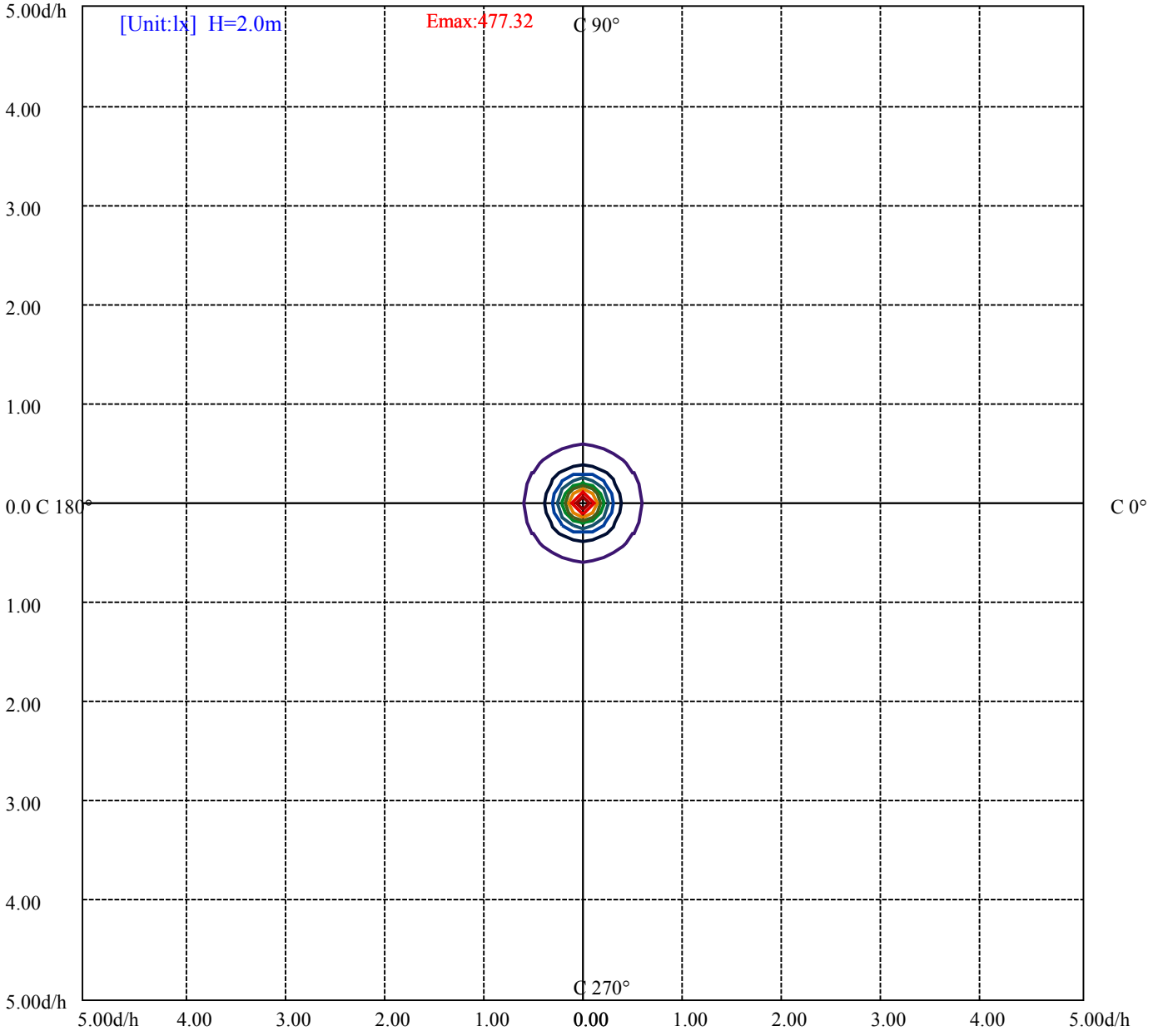
ISO illuminance diagram

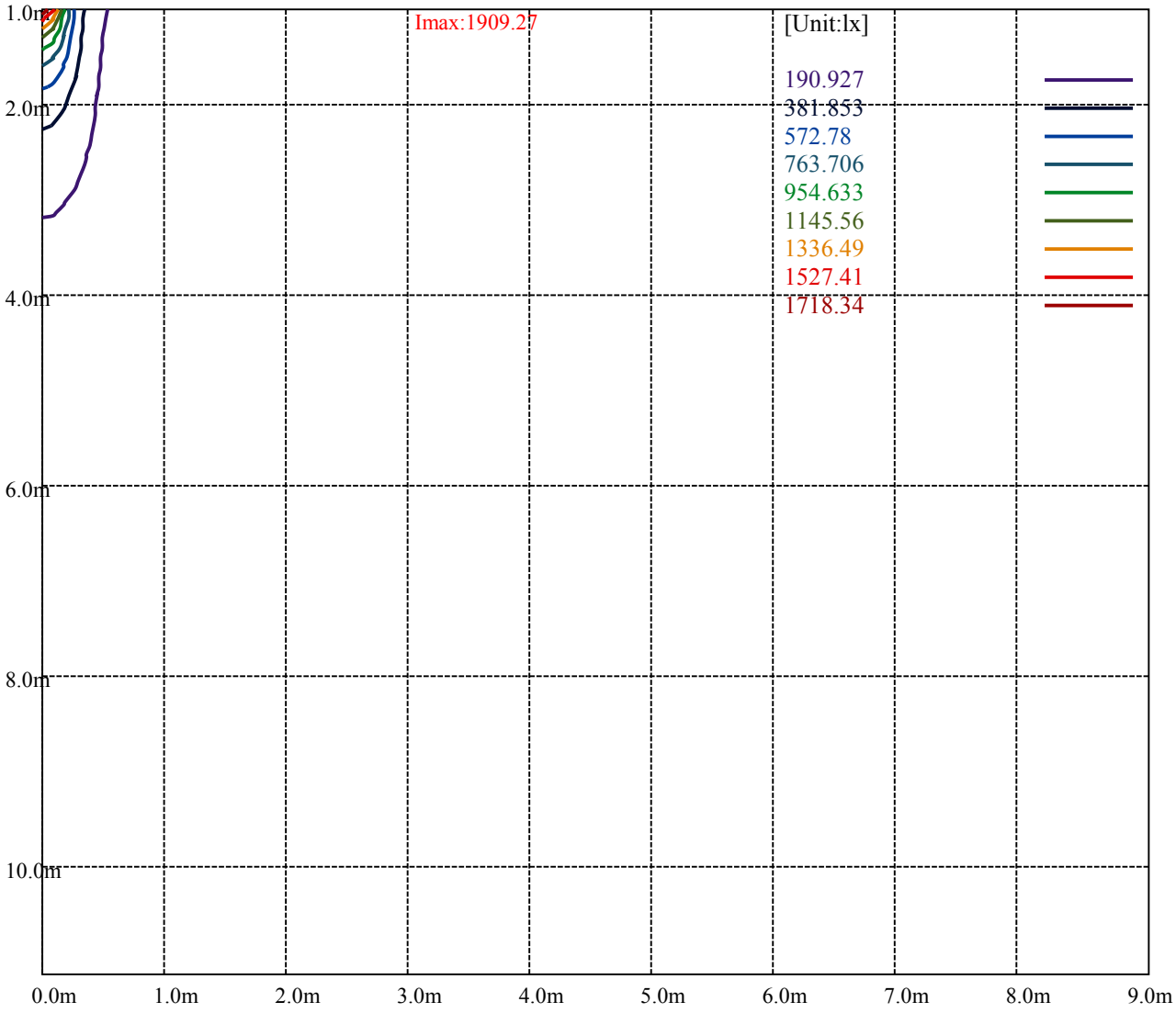


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/2
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/2
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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Luminance Limitting Curve(no luminous side)

Luminance Table

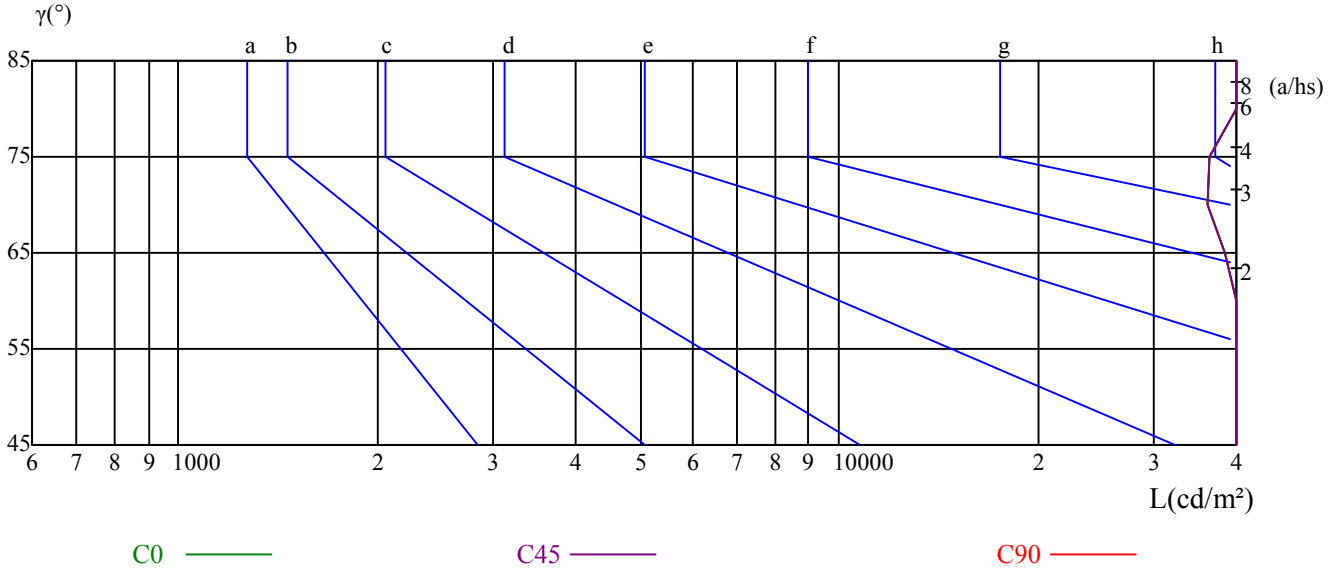
γ	45	50	55	60	65	70	75	80	85
C0	110819	75808	54999	44027	38525	36277	36508	44085	52086
C45	110819	75808	54999	44027	38525	36277	36508	44085	52086
C90	110819	75808	54999	44027	38525	36277	36508	44085	52086

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
38525	38525	38525	36508	36508	36508	52086	52086	52086

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

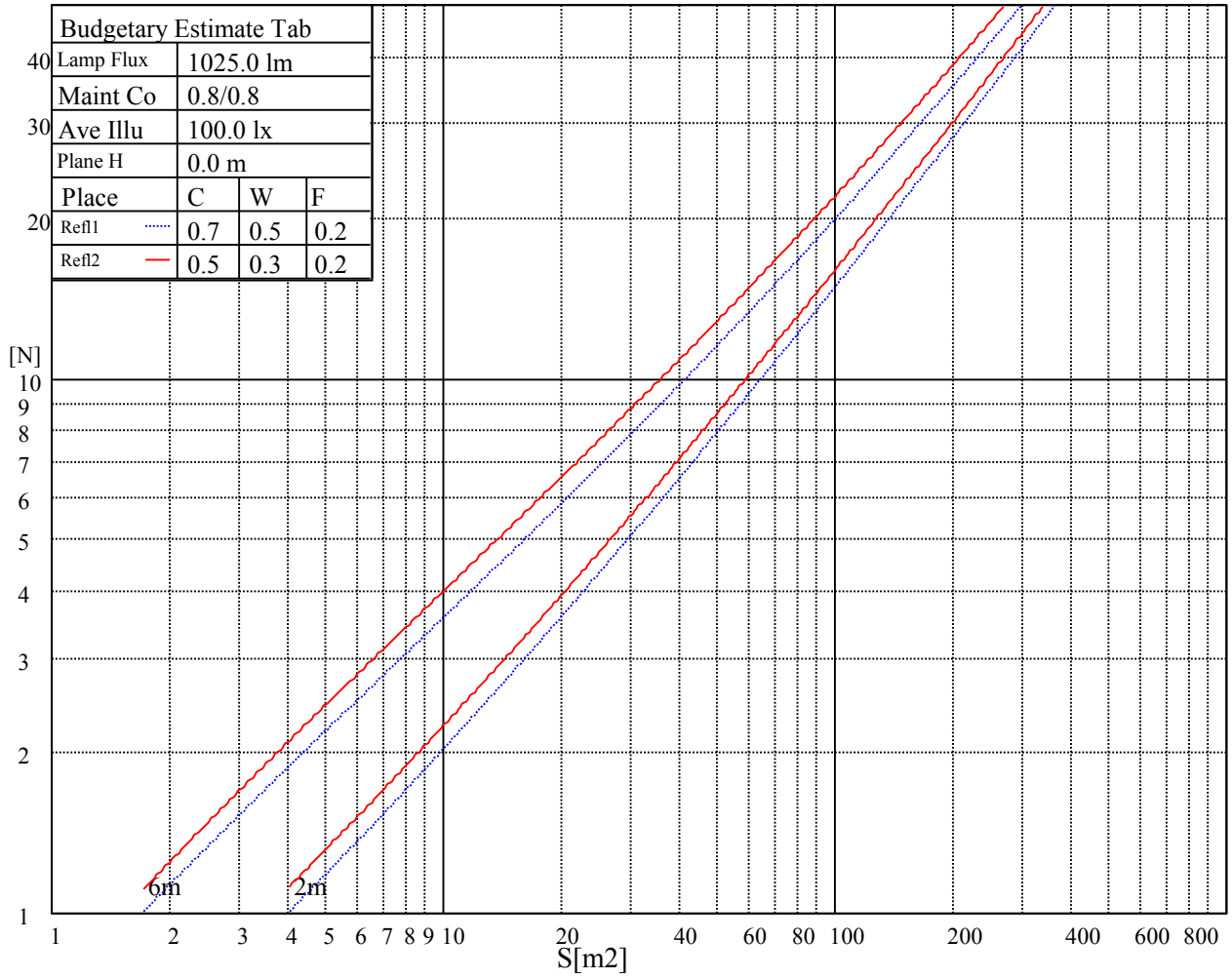


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/9/2
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

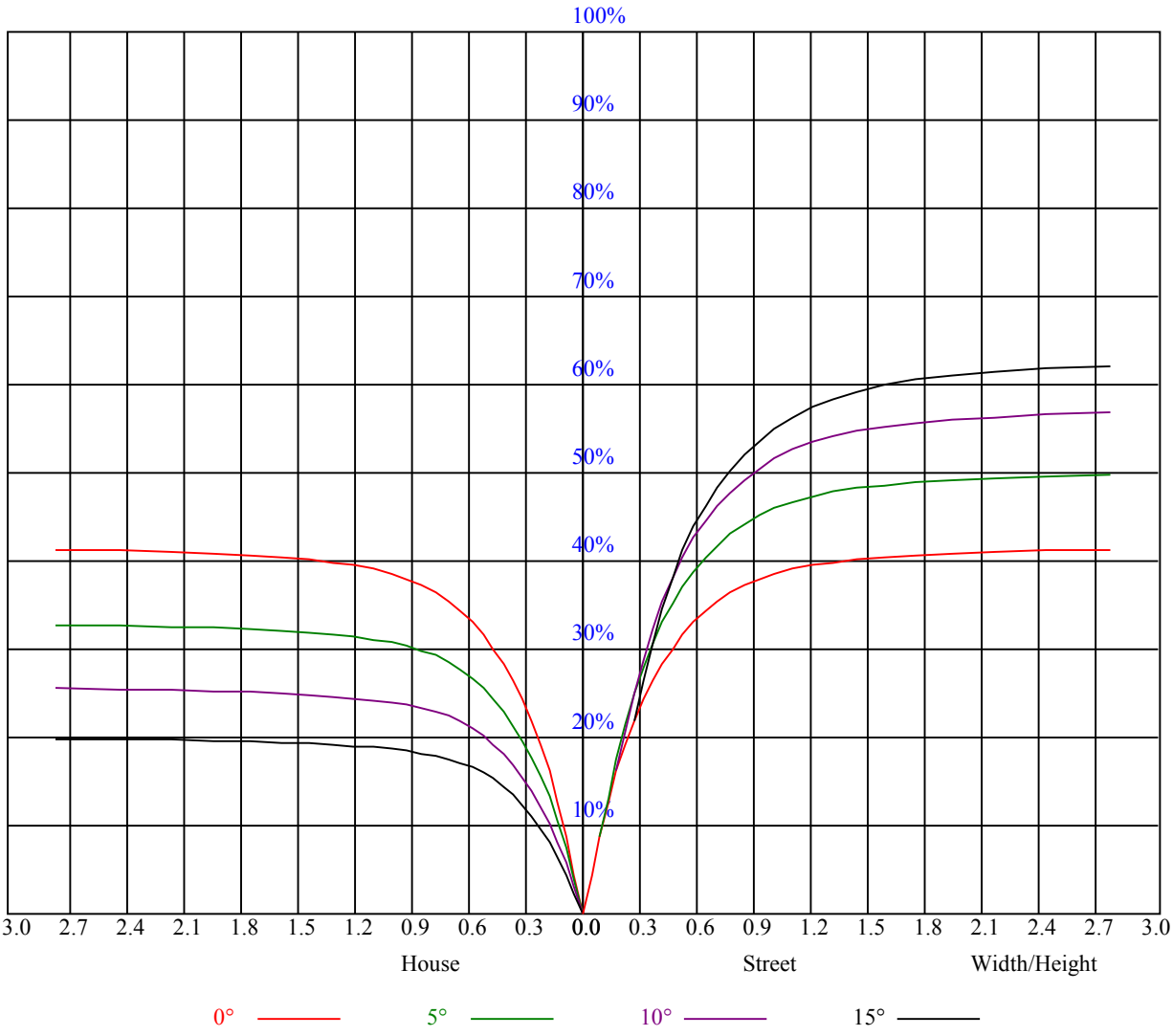


Equipment: GMS1980 Date: 2019/9/2 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.00	1.00	1.00	0.98	0.98	0.98	0.93	0.93	0.93	0.89	0.89	0.89	0.86	0.86	0.86	0.84
1	0.92	0.89	0.87	0.90	0.88	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.80	0.79	0.78	0.77
2	0.84	0.80	0.77	0.83	0.79	0.76	0.80	0.77	0.75	0.78	0.75	0.73	0.75	0.73	0.72	0.70
3	0.78	0.73	0.70	0.77	0.72	0.69	0.75	0.71	0.68	0.72	0.69	0.67	0.70	0.68	0.66	0.64
4	0.72	0.67	0.63	0.71	0.67	0.63	0.70	0.66	0.62	0.68	0.64	0.62	0.66	0.63	0.61	0.59
5	0.68	0.62	0.58	0.67	0.62	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.62	0.59	0.57	0.55
6	0.63	0.58	0.54	0.63	0.58	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.51
7	0.60	0.54	0.50	0.59	0.54	0.50	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.50	0.48
8	0.56	0.51	0.47	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.49	0.47	0.45
9	0.53	0.48	0.45	0.53	0.48	0.45	0.52	0.48	0.44	0.51	0.47	0.44	0.51	0.47	0.44	0.43
10	0.51	0.46	0.42	0.50	0.45	0.42	0.50	0.45	0.42	0.49	0.45	0.42	0.48	0.45	0.42	0.41

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/9/2	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	1918.69	1918.13	1902.94	1856.25	1800.00	1729.13	1625.06	1535.63	1440.56
45.0	1896.19	1918.69	1919.25	1901.25	1860.75	1798.88	1729.13	1638.56	1548.00
90.0	1910.25	1915.31	1902.38	1859.06	1813.50	1752.75	1676.81	1568.25	1472.06
135.0	1911.94	1911.94	1887.75	1842.75	1785.94	1708.88	1616.63	1524.94	1428.19
180.0	1918.69	1883.25	1844.44	1774.69	1674.56	1598.63	1488.94	1364.06	1276.88
225.0	1896.19	1854.00	1796.06	1707.19	1625.06	1532.25	1422.00	1314.00	1218.94
270.0	1910.25	1884.38	1836.56	1788.19	1699.88	1617.75	1508.63	1417.50	1324.13
315.0	1911.94	1890.00	1851.75	1791.00	1711.69	1629.56	1540.13	1425.94	1330.31
360.0	1918.69	1918.13	1902.94	1856.25	1800.00	1729.13	1625.06	1535.63	1440.56

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1320.75	1222.88	1127.25	1023.19	925.31	846.00	763.31	700.88	638.44
45.0	1440.56	1325.81	1225.69	1125.00	1007.44	919.69	839.81	752.06	689.63
90.0	1360.69	1248.19	1121.63	1051.93	953.49	861.30	786.54	713.25	654.47
135.0	1310.06	1211.06	1114.31	1013.06	918.00	840.94	759.38	689.06	635.63
180.0	1118.19	1072.74	976.84	897.69	825.36	744.02	685.07	632.08	575.21
225.0	1111.95	1013.40	931.89	848.87	781.76	713.59	653.34	604.69	563.06
270.0	1207.69	1118.25	1033.88	941.06	856.69	788.63	717.75	662.06	606.94
315.0	1235.81	1117.18	1027.18	943.20	848.59	779.68	716.29	646.99	604.58
360.0	1320.75	1222.88	1127.25	1023.19	925.31	846.00	763.31	700.88	638.44

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	586.13	547.31	507.94	475.88	450.00	428.06	404.44	386.44	370.69
45.0	635.06	578.81	531.00	495.56	461.25	434.81	410.06	388.13	371.25
90.0	595.35	545.34	506.87	470.53	438.86	415.74	394.82	373.50	357.86
135.0	581.06	538.88	496.69	463.50	435.94	411.19	389.25	372.38	356.63
180.0	534.94	498.77	464.23	435.54	412.82	391.16	371.53	356.12	340.65
225.0	516.43	485.27	457.31	426.83	405.96	387.96	369.00	351.79	337.73
270.0	559.13	522.56	486.00	455.06	430.31	408.38	385.31	368.44	353.25
315.0	557.16	513.28	485.66	456.30	426.49	408.71	390.60	368.38	355.44
360.0	586.13	547.31	507.94	475.88	450.00	428.06	404.44	386.44	370.69

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	356.06	341.44	329.63	317.81	305.44	295.88	284.06	276.41	259.03
45.0	354.38	339.19	327.38	316.13	302.63	291.94	284.06	268.26	256.50
90.0	344.48	330.47	317.36	306.28	294.41	283.16	273.04	261.62	251.10
135.0	339.75	328.50	316.69	303.75	291.94	284.06	269.83	257.23	247.22
180.0	326.59	313.37	300.04	288.06	276.92	262.63	251.33	239.85	225.51
225.0	324.39	308.64	296.66	284.96	272.36	259.48	247.73	234.84	222.98
270.0	338.63	321.75	309.94	297.56	284.06	270.00	258.47	245.25	232.65
315.0	341.78	327.66	314.04	302.18	289.63	276.53	265.50	252.45	241.03
360.0	356.06	341.44	329.63	317.81	305.44	295.88	284.06	276.41	259.03

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	246.83	234.51	221.91	206.27	193.84	180.90	165.49	153.62	141.81
45.0	245.98	234.79	220.50	208.74	196.59	183.26	168.19	155.76	142.31
90.0	238.61	226.24	214.09	200.36	185.91	173.42	160.59	144.96	133.20
135.0	236.42	224.38	211.44	199.97	186.36	174.49	160.59	147.15	135.62
180.0	213.98	202.50	189.28	176.18	164.81	151.71	140.63	128.64	117.45
225.0	210.43	197.66	186.13	172.13	161.66	150.86	140.68	128.31	118.74
270.0	220.78	207.51	194.34	182.70	169.82	158.96	146.87	135.23	125.49
315.0	228.04	214.76	202.16	188.49	174.99	163.07	151.31	137.14	126.23
360.0	246.83	234.51	221.91	206.27	193.84	180.90	165.49	153.62	141.81

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	129.38	117.51	107.94	97.76	89.10	80.61	72.96	66.99	60.92
45.0	129.77	119.03	107.78	98.38	88.99	79.71	72.56	66.26	59.23
90.0	121.89	110.25	99.51	90.90	82.07	74.14	67.84	61.54	56.59
135.0	123.75	111.94	103.11	95.23	84.43	76.61	70.88	63.23	57.32
180.0	108.28	98.44	89.16	82.13	75.38	67.78	62.27	57.43	52.43
225.0	109.80	100.35	91.52	84.38	76.78	69.92	64.63	59.18	54.79
270.0	114.75	104.74	96.19	88.31	79.20	72.62	66.88	61.09	56.03
315.0	115.88	105.13	95.18	87.19	79.82	71.55	65.87	60.75	55.69
360.0	129.38	117.51	107.94	97.76	89.10	80.61	72.96	66.99	60.92

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	55.80	51.69	47.98	43.93	41.18	38.64	35.78	33.75	31.89
45.0	54.62	50.46	45.96	42.81	39.94	37.18	34.82	32.79	30.94
90.0	51.64	47.36	43.99	40.95	37.63	35.27	33.13	30.71	28.91
135.0	53.33	48.15	44.10	41.40	37.86	35.33	33.02	30.43	28.63
180.0	48.04	44.61	41.18	38.14	35.66	33.13	31.16	29.08	27.23
225.0	50.23	46.29	43.09	40.16	37.01	34.71	32.63	30.32	28.69
270.0	51.86	47.81	44.27	41.29	38.42	36.06	33.64	31.44	29.70
315.0	51.08	47.48	43.93	41.01	38.19	35.61	33.69	31.61	29.76
360.0	55.80	51.69	47.98	43.93	41.18	38.64	35.78	33.75	31.89

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	30.15	28.52	27.17	25.93	24.58	23.40	22.39	21.21	20.14
45.0	29.53	27.73	26.33	25.03	23.68	22.44	21.43	20.64	19.35
90.0	27.28	25.65	24.08	22.84	21.54	20.42	19.29	18.17	17.27
135.0	27.06	24.92	23.74	22.33	20.81	19.74	18.68	17.49	16.48
180.0	25.65	24.08	22.56	21.32	20.19	18.90	17.94	16.99	15.98
225.0	27.11	25.43	24.02	22.84	21.54	20.42	19.18	18.06	17.04
270.0	28.18	26.38	25.03	23.79	22.28	21.26	20.08	18.96	17.89
315.0	28.24	26.89	25.20	24.02	22.84	21.66	20.48	19.46	18.45
360.0	30.15	28.52	27.17	25.93	24.58	23.40	22.39	21.21	20.14

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	19.24	18.23	17.38	16.76	16.37	16.20	16.03	15.92	15.92
45.0	18.45	17.66	16.65	15.64	14.85	14.12	13.73	13.50	13.22
90.0	16.26	15.30	14.46	13.61	12.60	11.93	11.19	10.29	9.79
135.0	15.53	14.57	13.78	12.88	11.98	11.19	10.35	9.62	9.00
180.0	14.96	14.12	13.28	12.32	11.53	10.69	9.96	9.17	8.44
225.0	15.98	14.91	14.01	13.11	11.98	11.19	10.41	9.68	9.06
270.0	16.99	15.92	15.08	14.29	13.73	13.28	12.71	12.15	11.64
315.0	17.38	16.76	16.48	16.37	16.43	16.37	16.43	16.37	16.09
360.0	19.24	18.23	17.38	16.76	16.37	16.20	16.03	15.92	15.92

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	15.69	15.08	13.89	10.01	8.44	8.04	7.88	4.28	3.94
45.0	12.88	12.54	11.64	10.13	7.99	7.20	6.86	4.33	3.88
90.0	9.28	8.44	7.71	7.09	6.58	6.13	4.39	3.99	3.77
135.0	8.27	7.54	6.92	6.36	5.85	5.40	4.39	4.05	3.83
180.0	7.82	7.20	6.58	6.08	5.51	4.28	3.94	3.71	3.60
225.0	8.38	7.43	6.81	6.19	5.85	4.28	3.88	3.71	3.66
270.0	10.80	9.28	8.10	7.31	6.86	6.53	4.16	3.88	3.71
315.0	15.47	14.06	10.91	8.72	8.16	7.65	5.51	3.94	3.77
360.0	15.69	15.08	13.89	10.01	8.44	8.04	7.88	4.28	3.94

Intensity data(cd)

C/γ(°)	90.0
0.0	3.77
45.0	3.71
90.0	3.66
135.0	3.66
180.0	3.60
225.0	3.66
270.0	3.66
315.0	3.66
360.0	3.77