NATA LIGHTING CO.,LTD.
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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

LumCAT: 2-1680-M
Luminaire: 92.70.124.00
Report No: NATA0100
Test No: GC2019062813
LampCAT: TRIDONIC SLE 9MM G7
Lamp flux(lm): 1073.0
Number of Lamps: 1
Length(mm): 70
Phm Type: C

Voltage(V): 34.8500
Current(A): 0.2490
Power (W): 8.6780
PF: 0.0000
Ballast type: DC
Width(mm): 70
Height(mm): 0

Photometric Results

Lumens(lm): 966.25
Efficiency(%): 90.05%
Lumens(lm)/Power(W): 111.35
Central intensity(cd): 3429.703
Maximum intensity(cd): 3429.703
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=62.5
[C90/270]Total=62.5
Maximum s/h(1/2): C0_180=0.42 C90_270=0.42
Maximum s/h(1/4): C0_180=0.40 C90_270=0.40
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.05%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.736%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2019/6/28
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3429.703	0.000	0	.000%	.000%
1.0	3425.625	3.280	3.28	.306%	.339%
2.0	3409.172	9.810	13.09	.914%	1.355%
3.0	3375.070	16.226	29.316	1.512%	3.034%
4.0	3329.367	22.442	51.758	2.092%	5.357%
5.0	3249.000	28.300	80.057	2.637%	8.285%
6.0	3137.555	33.563	113.621	3.128%	11.759%
7.0	2965.078	37.879	151.499	3.530%	15.679%
8.0	2772.563	41.063	192.563	3.827%	19.929%
9.0	2538.141	43.040	235.603	4.011%	24.383%
10.0	2290.992	43.702	279.305	4.073%	28.906%
11.0	2045.391	43.329	322.634	4.038%	33.390%
12.0	1792.266	41.951	364.585	3.910%	37.732%
13.0	1528.102	39.404	403.99	3.672%	41.810%
14.0	1235.862	35.378	439.368	3.297%	45.471%
15.0	1081.195	31.810	471.178	2.965%	48.763%
16.0	903.565	29.082	500.26	2.710%	51.773%
17.0	762.349	25.943	526.203	2.418%	54.458%
18.0	650.988	23.303	549.506	2.172%	56.870%
19.0	575.719	21.342	570.848	1.989%	59.078%
20.0	514.540	19.955	590.803	1.860%	61.144%
21.0	476.388	19.028	609.831	1.773%	63.113%
22.0	449.958	18.615	628.446	1.735%	65.039%
23.0	427.739	18.416	646.862	1.716%	66.945%
24.0	410.245	18.321	665.184	1.707%	68.842%
25.0	395.986	18.332	683.516	1.708%	70.739%
26.0	384.855	18.432	701.947	1.718%	72.646%
27.0	374.878	18.587	720.534	1.732%	74.570%
28.0	367.095	18.785	739.32	1.751%	76.514%
29.0	358.812	18.992	758.311	1.770%	78.480%
30.0	351.063	19.166	777.478	1.786%	80.463%
31.0	344.693	19.362	796.84	1.804%	82.467%
32.0	338.344	19.568	816.408	1.824%	84.492%
33.0	332.705	19.769	836.177	1.842%	86.538%
34.0	326.250	19.942	856.119	1.859%	88.602%
35.0	309.263	19.737	875.856	1.839%	90.645%
36.0	275.534	18.620	894.476	1.735%	92.572%
37.0	230.934	16.518	910.994	1.539%	94.281%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	164.897	13.212	924.206	1.231%	95.648%
39.0	109.709	9.373	933.579	.874%	96.618%
40.0	63.577	6.044	939.623	.563%	97.244%
41.0	30.087	3.335	942.958	.311%	97.589%
42.0	16.474	1.692	944.65	.158%	97.764%
43.0	12.396	1.069	945.719	.100%	97.875%
44.0	9.000	0.808	946.527	.075%	97.958%
45.0	7.193	0.622	947.149	.058%	98.023%
46.0	6.630	0.541	947.69	.050%	98.079%
47.0	6.152	0.508	948.198	.047%	98.131%
48.0	5.941	0.489	948.687	.046%	98.182%
49.0	5.738	0.480	949.167	.045%	98.232%
50.0	5.555	0.471	949.638	.044%	98.280%
51.0	5.400	0.463	950.101	.043%	98.328%
52.0	5.252	0.457	950.558	.043%	98.376%
53.0	5.126	0.451	951.01	.042%	98.422%
54.0	4.999	0.446	951.456	.042%	98.469%
55.0	4.880	0.441	951.897	.041%	98.514%
56.0	4.781	0.437	952.333	.041%	98.559%
57.0	4.676	0.432	952.766	.040%	98.604%
58.0	4.584	0.428	953.194	.040%	98.648%
59.0	4.500	0.425	953.619	.040%	98.692%
60.0	4.409	0.421	954.04	.039%	98.736%
61.0	4.331	0.417	954.457	.039%	98.779%
62.0	4.275	0.415	954.871	.039%	98.822%
63.0	4.226	0.413	955.285	.039%	98.865%
64.0	4.163	0.412	955.696	.038%	98.907%
65.0	4.113	0.410	956.106	.038%	98.950%
66.0	4.092	0.409	956.515	.038%	98.992%
67.0	4.029	0.408	956.924	.038%	99.034%
68.0	3.994	0.406	957.33	.038%	99.077%
69.0	3.980	0.407	957.737	.038%	99.119%
70.0	3.930	0.406	958.143	.038%	99.161%
71.0	3.902	0.405	958.548	.038%	99.203%
72.0	3.881	0.405	958.953	.038%	99.244%
73.0	3.867	0.405	959.358	.038%	99.286%
74.0	3.846	0.406	959.763	.038%	99.328%
75.0	3.818	0.405	960.168	.038%	99.370%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	3.811	0.405	960.573	.038%	99.412%
77.0	3.797	0.406	960.979	.038%	99.454%
78.0	3.783	0.406	961.385	.038%	99.496%
79.0	3.776	0.406	961.791	.038%	99.538%
80.0	3.769	0.407	962.198	.038%	99.580%
81.0	3.748	0.406	962.604	.038%	99.622%
82.0	3.748	0.406	963.01	.038%	99.664%
83.0	3.734	0.407	963.417	.038%	99.706%
84.0	3.734	0.407	963.824	.038%	99.749%
85.0	3.734	0.408	964.231	.038%	99.791%
86.0	3.705	0.407	964.638	.038%	99.833%
87.0	3.691	0.405	965.043	.038%	99.875%
88.0	3.698	0.405	965.448	.038%	99.917%
89.0	3.663	0.404	965.851	.038%	99.958%
90.0	3.670	0.402	966.253	.037%	100.000%

Zonal flux distribution table

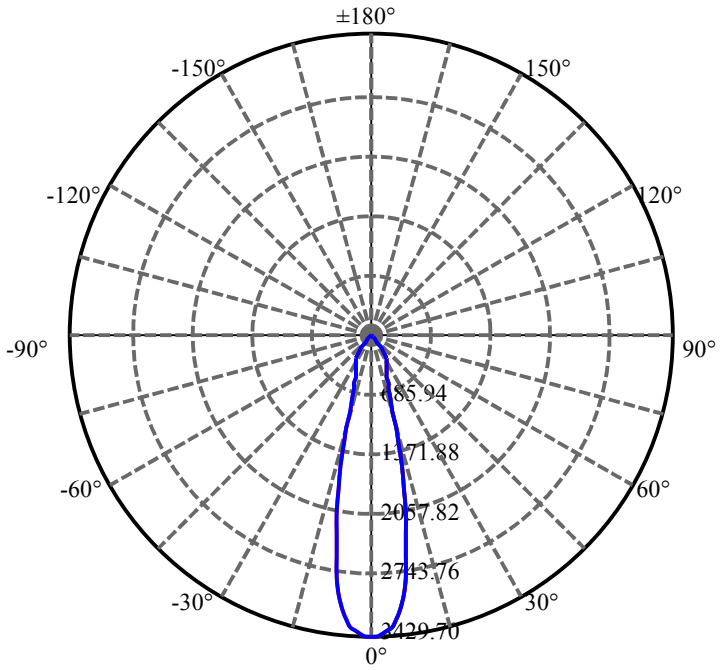
ZONAL LUMEN SUMMARY

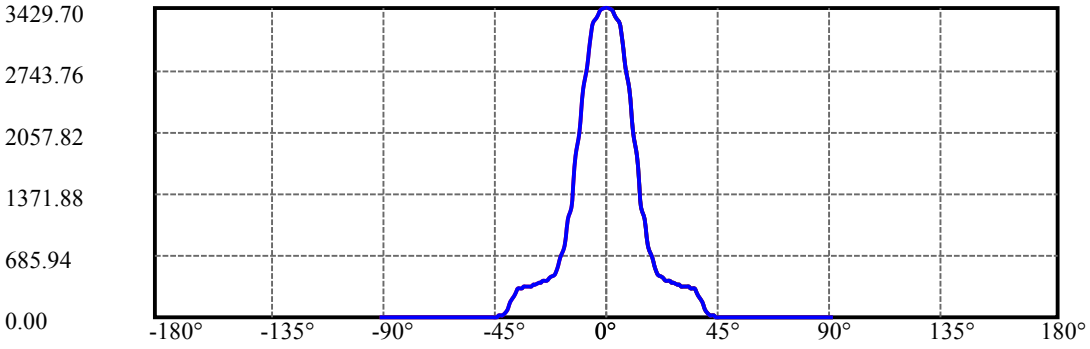
Zone	Lumens	%Lamp	%Fixt
0-30	777.48	72.46%	80.46%
0-40	939.62	87.57%	97.24%
0-60	954.04	88.91%	98.74%
0-90	965.85	90.01%	99.96%
0-120	965.85	90.01%	99.96%
0-180	966.25	90.05%	100.00%
60-90	12.23	1.14%	1.27%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.77	773.00	72.04%	80.00%

ZONAL LUMEN SUMMARY

0-10	279.30
10-20	311.50
20-30	186.68
30-40	162.15
40-50	10.01
50-60	4.40
60-70	4.10
70-80	4.05
80-90	3.65
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):

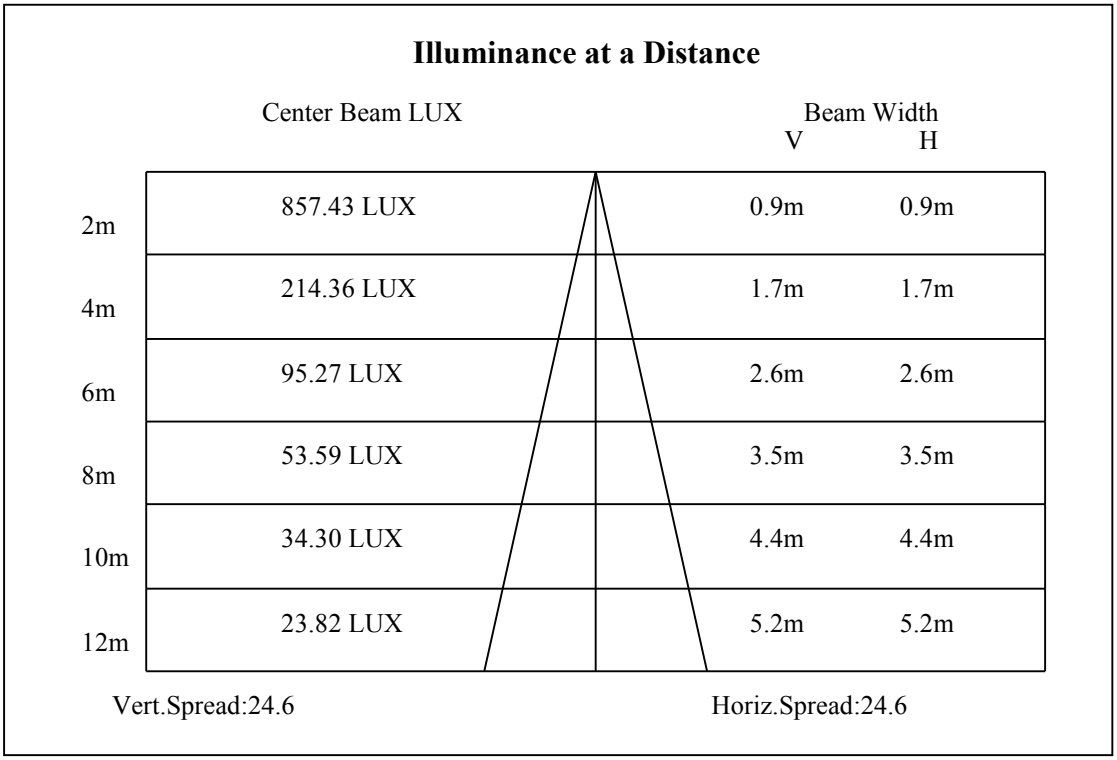
C0/C180:

C90/C270:

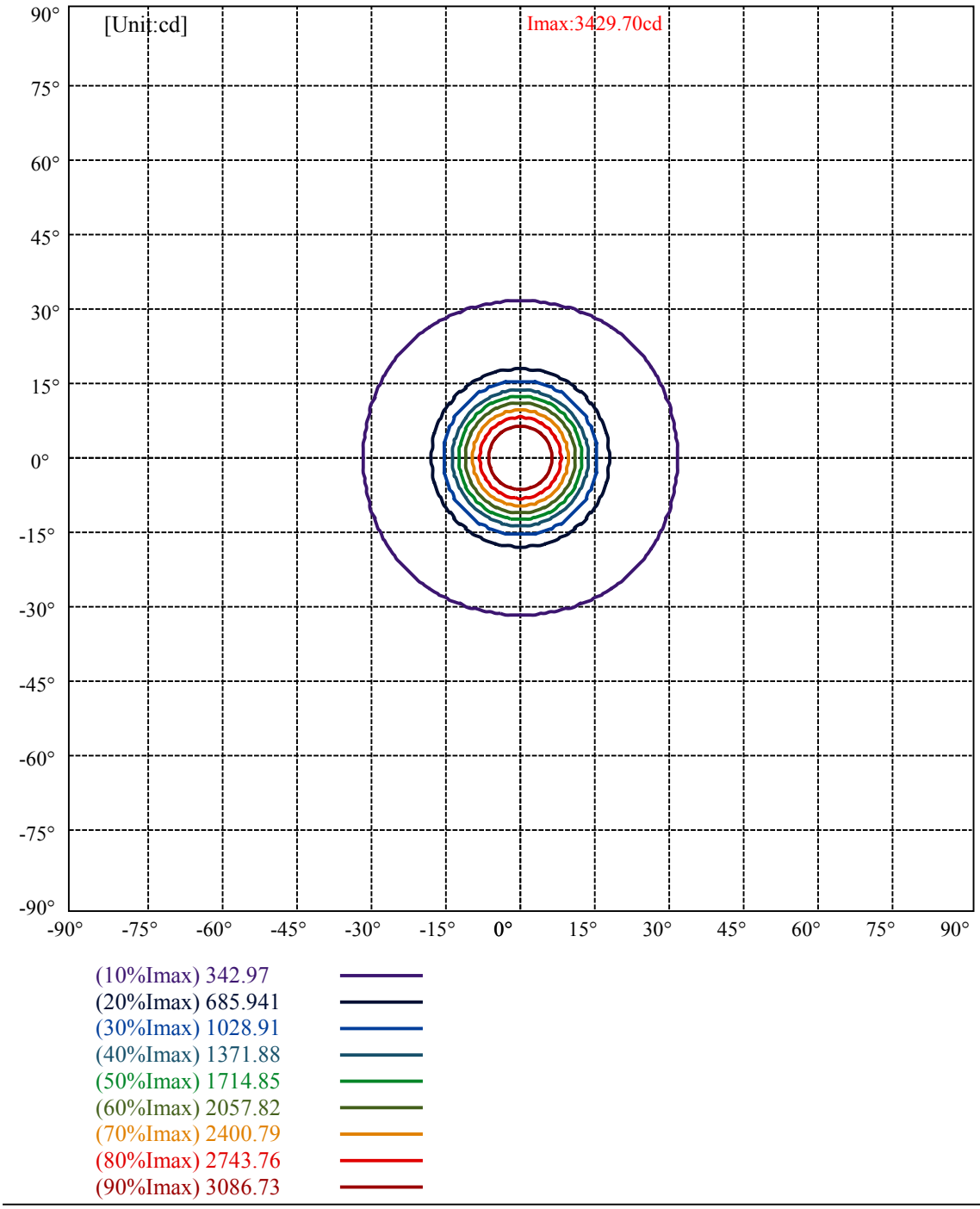
Field angle(10%Imax):C0/180Left:31.3 Right:31.3
:C90/270Left:31.3 Right:31.3

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

Lux distance Curve



ISO-Intensity(V-H)

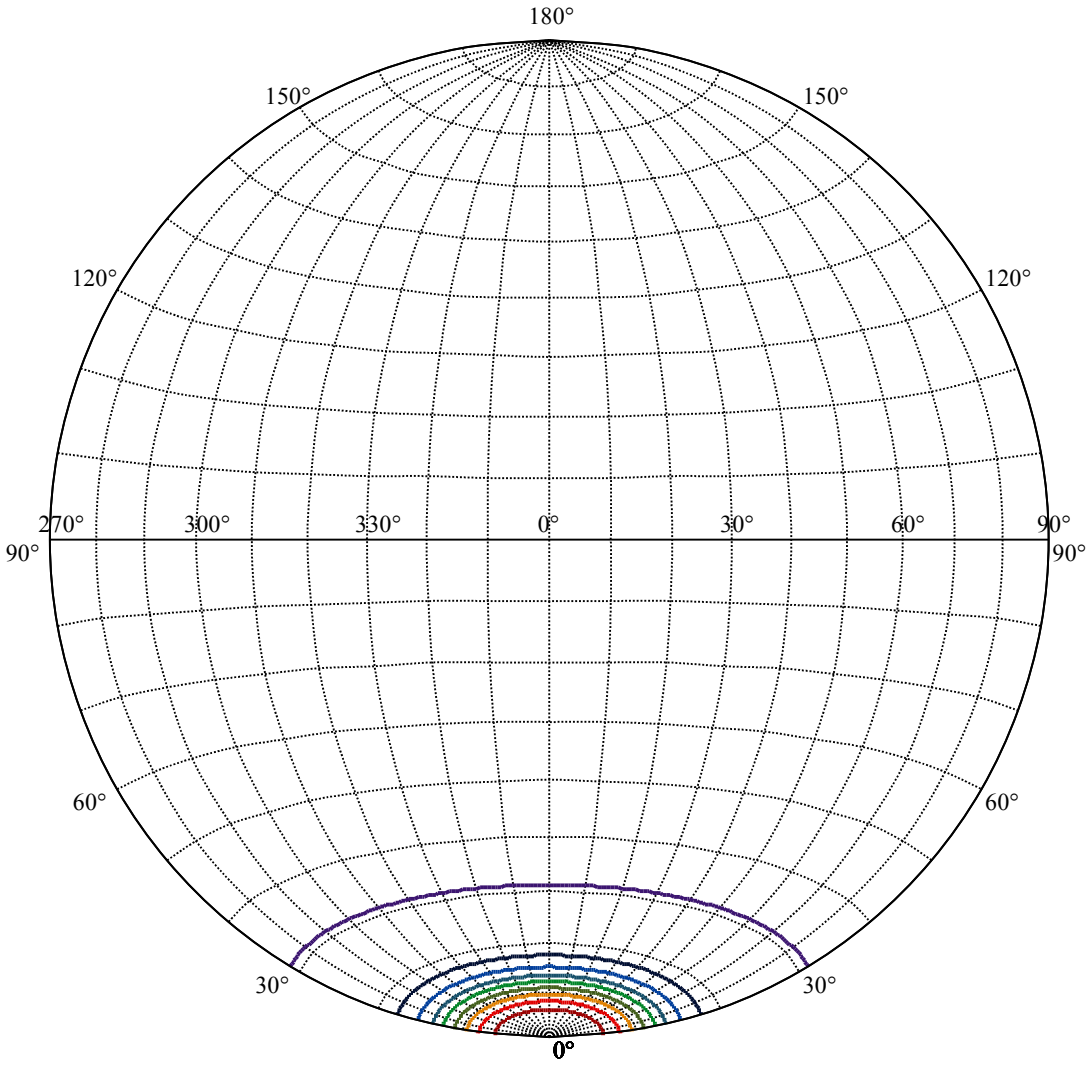


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3429.70

(10%Imax) 342.97
(20%Imax) 685.941
(30%Imax) 1028.91
(40%Imax) 1371.88
(50%Imax) 1714.85
(60%Imax) 2057.82
(70%Imax) 2400.79
(80%Imax) 2743.76
(90%Imax) 3086.73

Equipment: GMS1980 Date: 2019/6/28 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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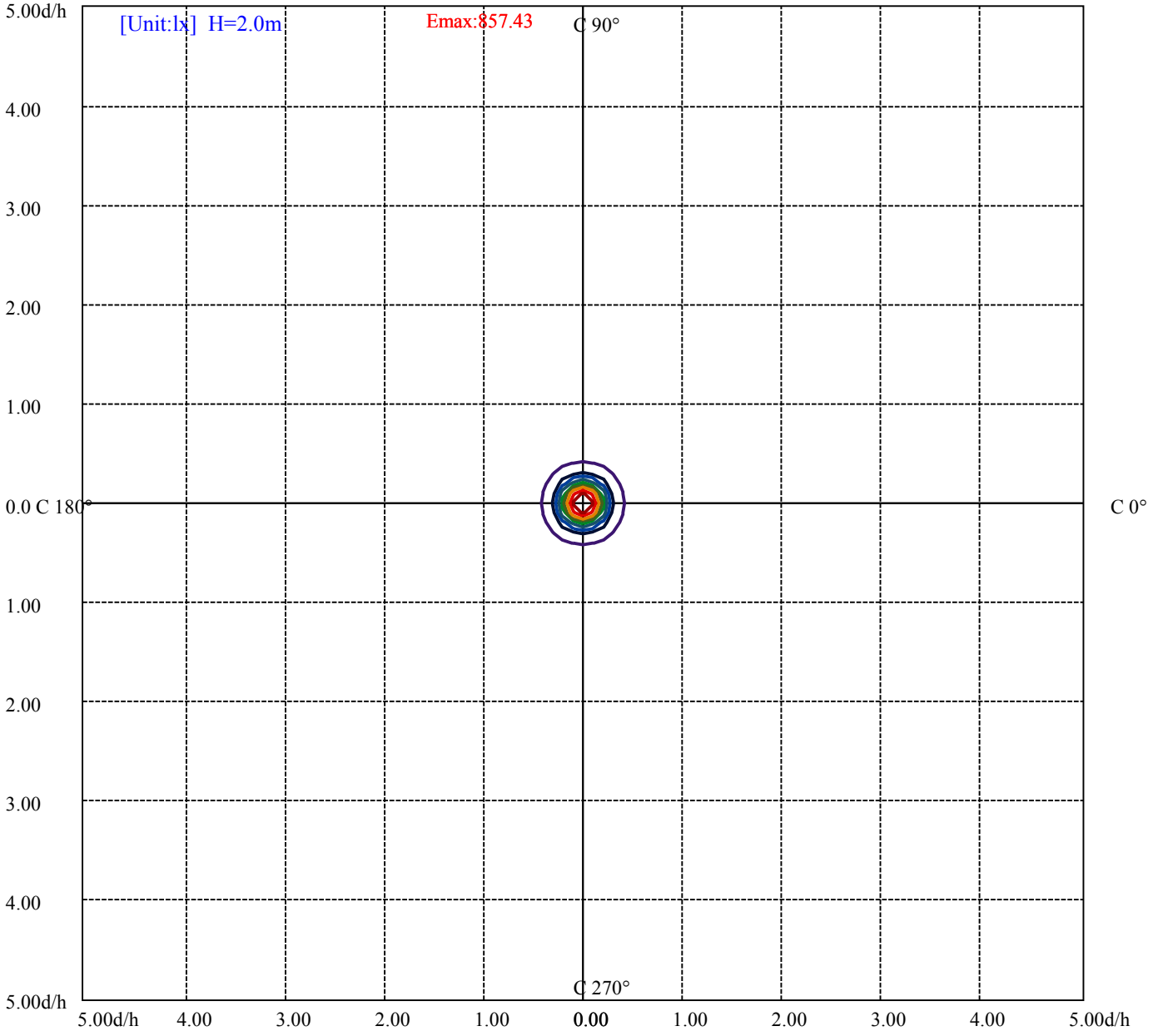
ISO illuminance diagram



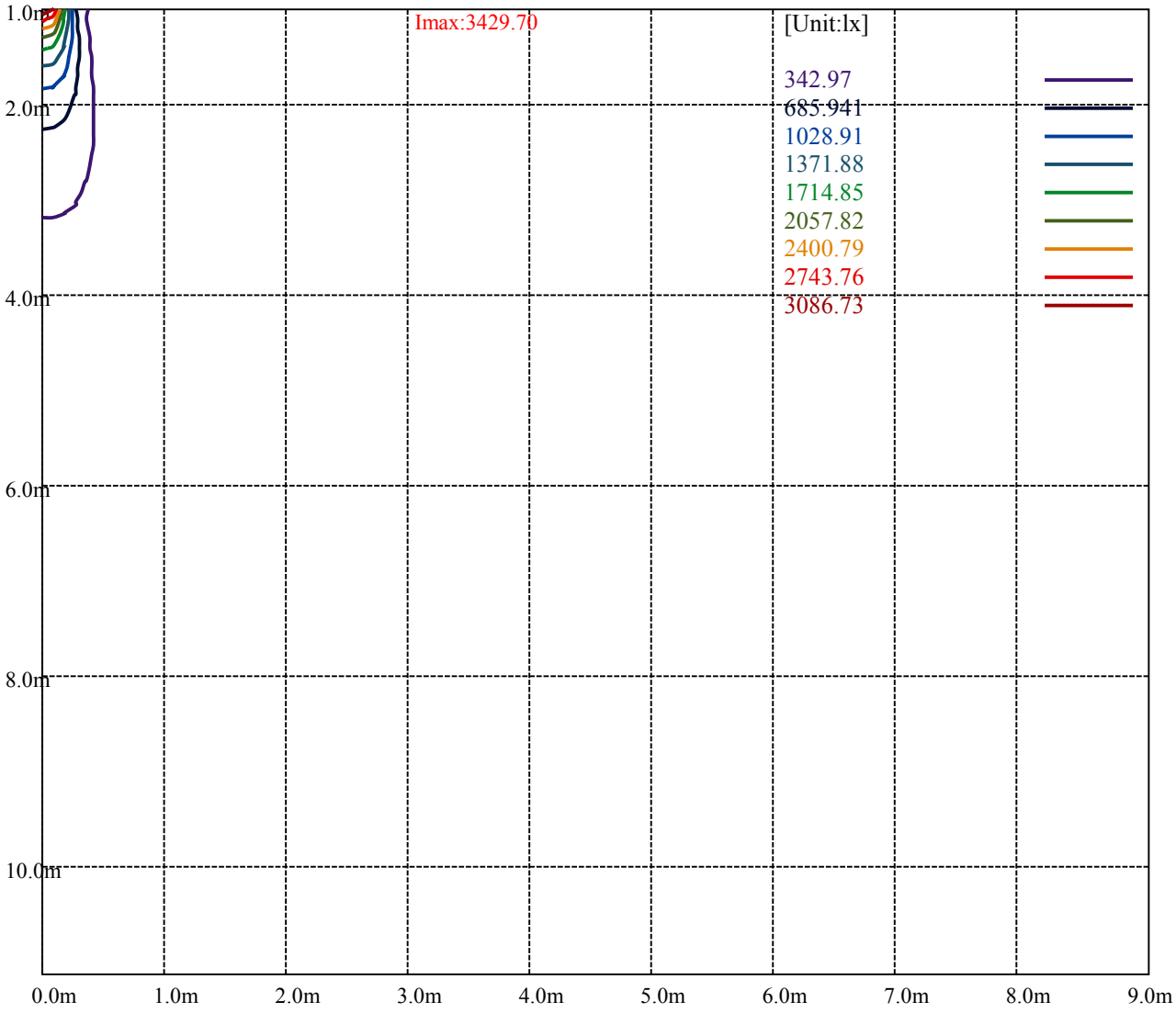
(10%Emax) 85.7425
(20%Emax) 171.4852
(30%Emax) 257.2275
(40%Emax) 342.97
(50%Emax) 428.7125
(60%Emax) 514.455
(70%Emax) 600.1975
(80%Emax) 685.94
(90%Emax) 771.6825

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

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Luminance Limitting Curve(no luminous side)

Luminance Table

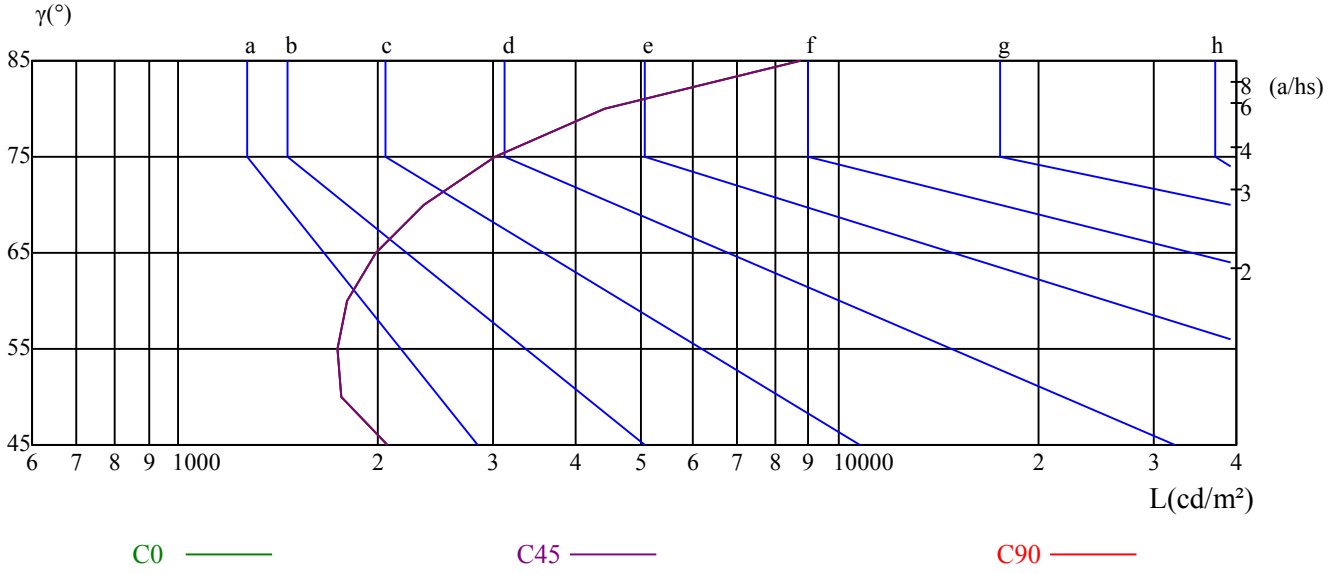
γ	45	50	55	60	65	70	75	80	85
C0	2076	1764	1736	1799	1986	2345	3011	4429	8742
C45	2076	1764	1736	1799	1986	2345	3011	4429	8742
C90	2076	1764	1736	1799	1986	2345	3011	4429	8742

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1986	1986	1986	3011	3011	3011	8742	8742	8742

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

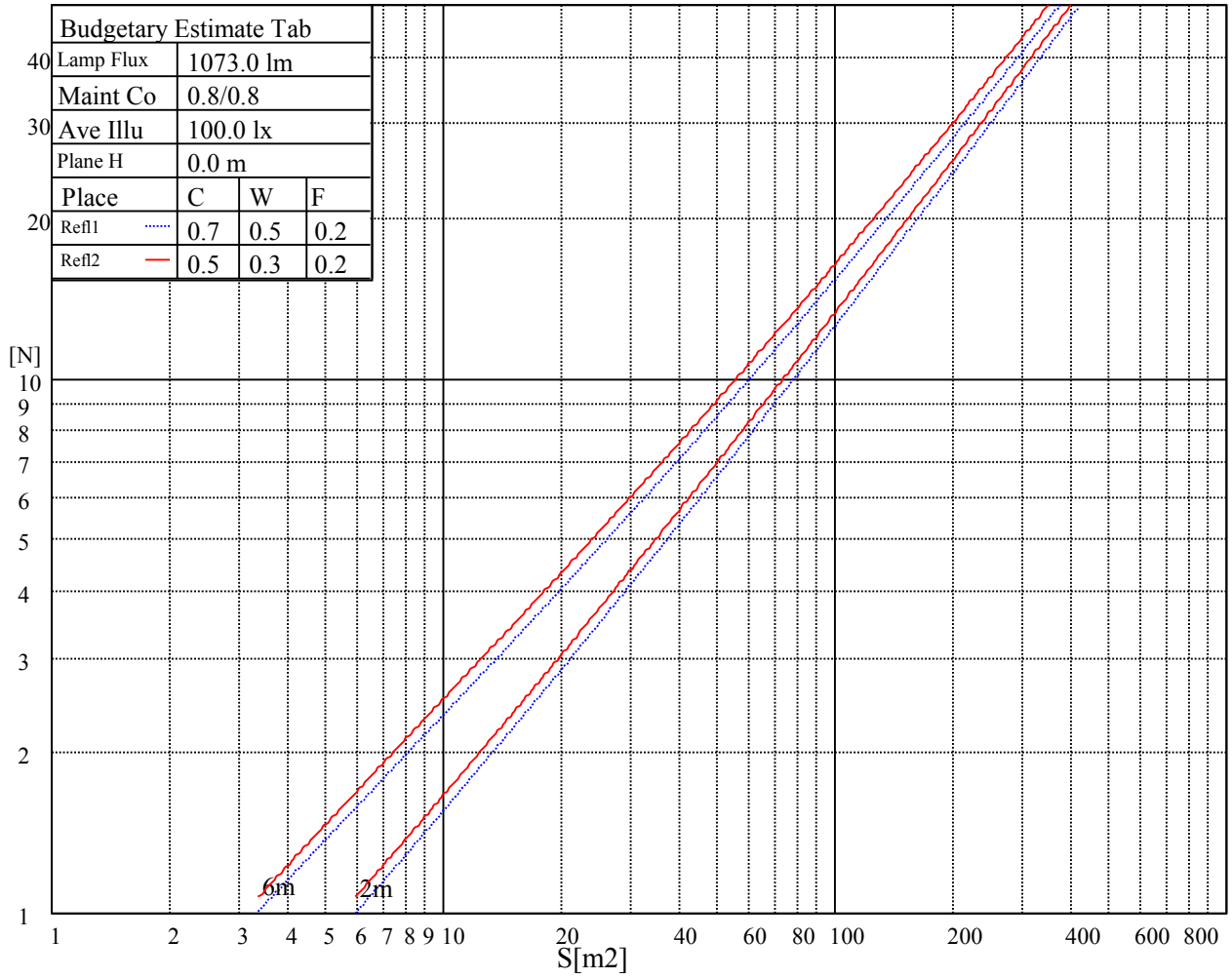


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/6/28
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

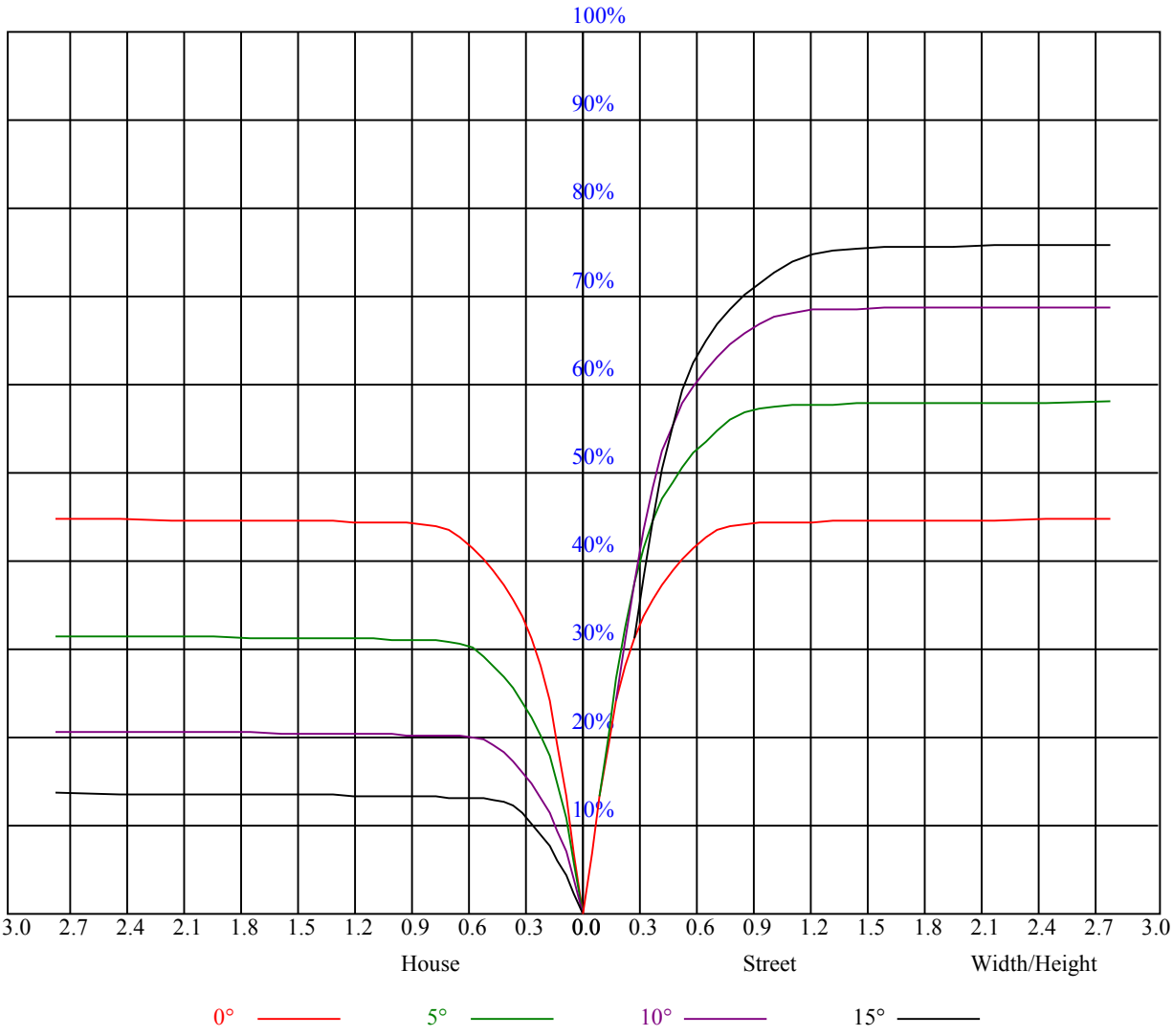


Equipment: GMS1980 Date: 2019/6/28 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.07	1.07	1.07	1.05	1.05	1.05	1.00	1.00	1.00	0.96	0.96	0.96	0.92	0.92	0.92	0.90
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.90	0.89	0.88	0.87	0.85
2	0.95	0.92	0.89	0.93	0.91	0.88	0.91	0.88	0.86	0.88	0.86	0.84	0.85	0.84	0.83	0.81
3	0.90	0.86	0.83	0.89	0.85	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.82	0.80	0.79	0.77
4	0.85	0.81	0.78	0.84	0.81	0.78	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.74
5	0.81	0.77	0.74	0.81	0.77	0.74	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.72	0.71
6	0.78	0.73	0.70	0.77	0.73	0.70	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.68
7	0.75	0.70	0.67	0.74	0.70	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.65
8	0.72	0.67	0.64	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.63	0.69	0.66	0.63	0.62
9	0.69	0.64	0.62	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.61	0.60
10	0.66	0.62	0.59	0.66	0.62	0.59	0.65	0.62	0.59	0.65	0.61	0.59	0.64	0.61	0.59	0.58

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/6/28	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	3430.69	3426.75	3417.75	3390.19	3359.25	3303.56	3219.19	3086.44	2898.56
45.0	3431.25	3426.75	3407.63	3373.31	3338.44	3263.06	3148.31	2991.38	2804.63
90.0	3428.44	3415.50	3389.06	3340.69	3268.13	3172.50	3043.69	2822.63	2620.13
135.0	3428.44	3428.44	3411.00	3375.56	3325.50	3232.13	3109.50	2947.50	2760.75
180.0	3430.69	3428.44	3414.38	3373.88	3317.06	3201.19	3087.56	2889.00	2662.31
225.0	3431.25	3431.81	3422.25	3394.69	3344.06	3268.13	3149.44	2940.19	2746.13
270.0	3428.44	3427.88	3413.81	3387.94	3359.81	3299.63	3200.63	3070.13	2925.00
315.0	3428.44	3419.44	3397.50	3364.31	3322.69	3251.81	3142.13	2973.38	2763.00
360.0	3430.69	3426.75	3417.75	3390.19	3359.25	3303.56	3219.19	3086.44	2898.56

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2664.56	2441.81	2187.56	1949.06	1680.75	1416.38	1202.06	995.06	829.69
45.0	2547.56	2322.00	2085.75	1813.50	1540.13	1319.06	1099.69	915.19	780.19
90.0	2396.81	2102.63	1859.06	1619.44	1361.81	1109.59	964.46	822.43	694.80
135.0	2505.38	2283.75	2017.69	1773.00	1505.25	1255.50	1064.25	885.94	757.13
180.0	2444.06	2181.38	1910.81	1667.81	1434.94	1115.61	980.38	829.58	695.81
225.0	2539.13	2259.56	2024.44	1780.31	1482.19	1112.34	1066.05	880.54	751.33
270.0	2653.88	2435.06	2237.06	1935.56	1662.19	1453.50	1191.38	986.63	840.94
315.0	2553.75	2301.75	2040.75	1799.44	1557.56	1104.92	1081.29	913.16	748.91
360.0	2664.56	2441.81	2187.56	1949.06	1680.75	1416.38	1202.06	995.06	829.69

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	711.00	622.13	541.13	498.94	468.00	439.31	423.00	407.25	393.75
45.0	659.25	578.25	514.13	475.88	448.31	426.38	405.56	392.06	381.94
90.0	595.24	532.97	484.82	452.70	430.26	409.61	396.96	384.36	374.40
135.0	641.81	568.69	506.81	476.44	451.69	433.69	410.63	397.13	387.56
180.0	594.96	532.97	487.46	456.41	434.70	413.55	399.43	385.99	374.57
225.0	638.94	565.59	509.06	470.08	443.93	424.86	410.57	394.82	384.75
270.0	716.63	628.88	555.19	503.44	471.38	446.06	424.69	409.50	397.13
315.0	650.08	576.28	517.73	477.23	451.41	428.46	411.13	396.79	384.75
360.0	711.00	622.13	541.13	498.94	468.00	439.31	423.00	407.25	393.75

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	382.50	374.06	366.19	357.19	350.44	344.25	339.75	334.13	326.25
45.0	371.25	363.38	357.19	349.88	342.00	336.94	331.31	325.13	311.63
90.0	365.96	357.92	349.82	342.45	337.44	331.14	325.97	319.11	293.85
135.0	375.75	369.00	360.56	351.56	344.25	337.50	330.19	324.00	299.25
180.0	367.71	360.11	351.06	343.97	337.44	330.81	324.56	316.69	287.33
225.0	375.86	368.78	358.43	352.35	347.01	340.54	334.63	328.28	310.95
270.0	384.19	375.19	367.88	359.44	352.69	346.50	340.31	334.13	328.50
315.0	375.81	368.33	359.38	351.68	346.28	339.08	334.91	328.56	316.35
360.0	382.50	374.06	366.19	357.19	350.44	344.25	339.75	334.13	326.25

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	298.13	288.00	188.89	136.58	86.34	47.98	18.56	14.74	11.25
45.0	286.88	222.58	168.24	118.07	64.46	29.59	15.58	12.15	9.06
90.0	248.63	201.15	138.99	85.89	44.83	18.00	13.89	10.24	7.14
135.0	284.63	209.36	153.79	98.78	55.01	24.13	14.91	11.48	8.49
180.0	237.43	187.14	137.59	77.91	39.32	18.56	14.12	10.01	7.31
225.0	265.16	216.84	159.19	102.09	57.32	25.71	16.37	12.26	8.61
270.0	303.75	288.56	201.94	138.38	88.88	48.54	21.21	15.19	11.53
315.0	279.68	233.83	170.55	119.98	72.45	28.18	17.16	13.11	8.61
360.0	298.13	288.00	188.89	136.58	86.34	47.98	18.56	14.74	11.25

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	7.99	7.31	6.41	6.08	5.85	5.68	5.46	5.34	5.18
45.0	7.20	6.41	6.13	5.96	5.74	5.51	5.40	5.23	5.12
90.0	6.36	6.13	5.85	5.74	5.57	5.40	5.23	5.12	5.01
135.0	7.26	6.69	6.02	5.85	5.68	5.51	5.34	5.18	5.06
180.0	6.47	6.19	6.02	5.85	5.63	5.51	5.40	5.23	5.12
225.0	7.20	6.47	6.19	5.96	5.79	5.57	5.46	5.29	5.18
270.0	8.10	7.37	6.47	6.13	5.85	5.74	5.51	5.34	5.23
315.0	6.98	6.47	6.13	5.96	5.79	5.51	5.40	5.29	5.12
360.0	7.99	7.31	6.41	6.08	5.85	5.68	5.46	5.34	5.18

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.06	4.95	4.84	4.73	4.61	4.56	4.39	4.33	4.28
45.0	5.01	4.89	4.78	4.67	4.56	4.50	4.44	4.33	4.28
90.0	4.89	4.78	4.67	4.56	4.50	4.44	4.33	4.28	4.22
135.0	4.95	4.84	4.73	4.67	4.56	4.50	4.39	4.33	4.28
180.0	4.95	4.84	4.73	4.67	4.56	4.50	4.39	4.33	4.28
225.0	5.01	4.89	4.84	4.73	4.61	4.50	4.44	4.39	4.33
270.0	5.12	4.95	4.89	4.73	4.67	4.56	4.50	4.39	4.33
315.0	5.01	4.89	4.78	4.67	4.61	4.44	4.39	4.28	4.22
360.0	5.06	4.95	4.84	4.73	4.61	4.56	4.39	4.33	4.28

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.22	4.11	4.11	4.05	3.99	3.99	3.94	3.88	3.88
45.0	4.22	4.16	4.11	4.11	3.99	3.99	3.99	3.94	3.88
90.0	4.16	4.11	4.05	4.05	3.99	3.99	3.94	3.94	3.88
135.0	4.22	4.16	4.11	4.11	4.05	3.99	3.99	3.94	3.88
180.0	4.22	4.16	4.11	4.11	4.05	3.99	3.99	3.94	3.88
225.0	4.28	4.22	4.16	4.11	4.05	3.99	3.99	3.94	3.94
270.0	4.33	4.22	4.16	4.16	4.11	4.05	4.05	3.99	3.99
315.0	4.16	4.16	4.11	4.05	3.99	3.94	3.94	3.88	3.88
360.0	4.22	4.11	4.11	4.05	3.99	3.99	3.94	3.88	3.88

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	3.83	3.83	3.83	3.77	3.77	3.77	3.77	3.71	3.71
45.0	3.88	3.83	3.83	3.83	3.77	3.77	3.77	3.77	3.77
90.0	3.88	3.88	3.83	3.83	3.83	3.83	3.83	3.83	3.77
135.0	3.88	3.88	3.83	3.83	3.83	3.77	3.77	3.77	3.77
180.0	3.88	3.83	3.83	3.83	3.83	3.83	3.77	3.77	3.77
225.0	3.94	3.94	3.88	3.83	3.83	3.83	3.77	3.77	3.77
270.0	3.94	3.94	3.94	3.88	3.88	3.83	3.83	3.83	3.83
315.0	3.83	3.83	3.83	3.77	3.77	3.77	3.77	3.77	3.77
360.0	3.83	3.83	3.83	3.77	3.77	3.77	3.77	3.71	3.71

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.66
45.0	3.77	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.66
90.0	3.77	3.77	3.77	3.77	3.77	3.71	3.66	3.71	3.66
135.0	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.66
180.0	3.71	3.71	3.71	3.71	3.71	3.71	3.66	3.71	3.66
225.0	3.77	3.77	3.71	3.71	3.71	3.71	3.71	3.71	3.66
270.0	3.83	3.83	3.83	3.83	3.83	3.71	3.71	3.66	3.71
315.0	3.71	3.77	3.71	3.71	3.71	3.66	3.66	3.66	3.66
360.0	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.71	3.66

Intensity data(cd)

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