NATA LIGHTING CO.,LTD
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Nata

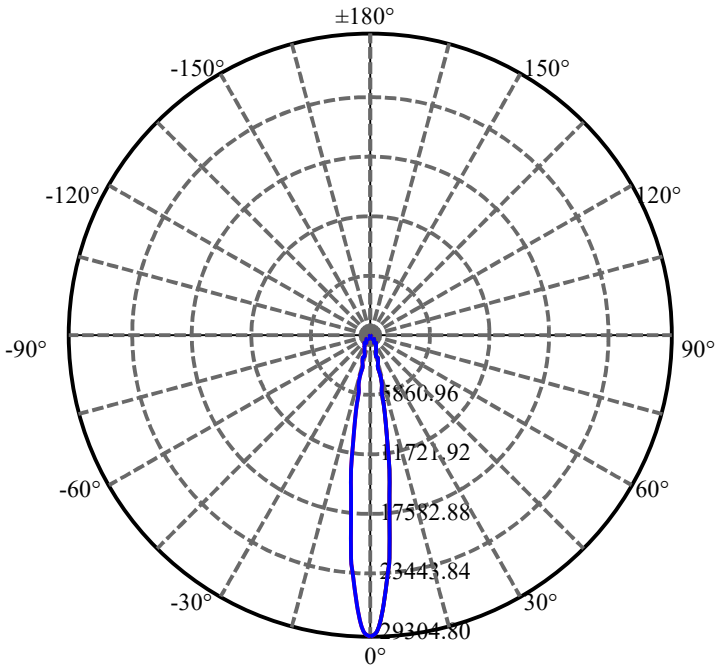
Client: NT
LumCAT: 3-2998-LM
Luminaire: 92.70.412.00 LED HOLDER
Report No: 20251111-B020
Ballast type: DC
Test No: 20251111-C020
LampCAT: CITIZEN CLU038 LES14.5
Lamp flux(lm): 3662.0
Number of Lamps: 1
Length(mm): 85
Phm Type: C
Voltage(V): 36.490
Current(A): 0.709
Power (W): 25.870
PF: 0.000
Width(mm): 85
Height(mm): 51

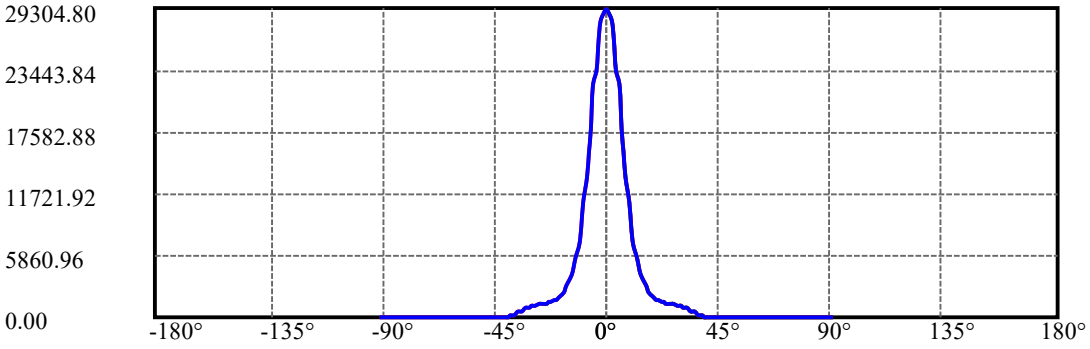
Photometric Results

Lumens(lm): 3541.48, Efficiency(%): 96.71% , Luminous Efficacy(lm/W): 136.90
Central intensity(cd): 29304.800, Maximum intensity(cd): 29304.800
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=14.8
[C90/270]Total=14.8
Field angle(10%Imax): [C0/180]Total=32.0
[C90/270]Total=32.0
Maximum s/h(1/2): C0_180=0.25 C90_270=0.25
Maximum s/h(1/4): C0_180=0.26 C90_270=0.26
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 96.71%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 99.338%

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2025/11/11
Humidity(%): 60.0%
Operator: YZQ
Distance(m): 9.28

Light Distribution Curve [Unit:cd]





C0(Max):

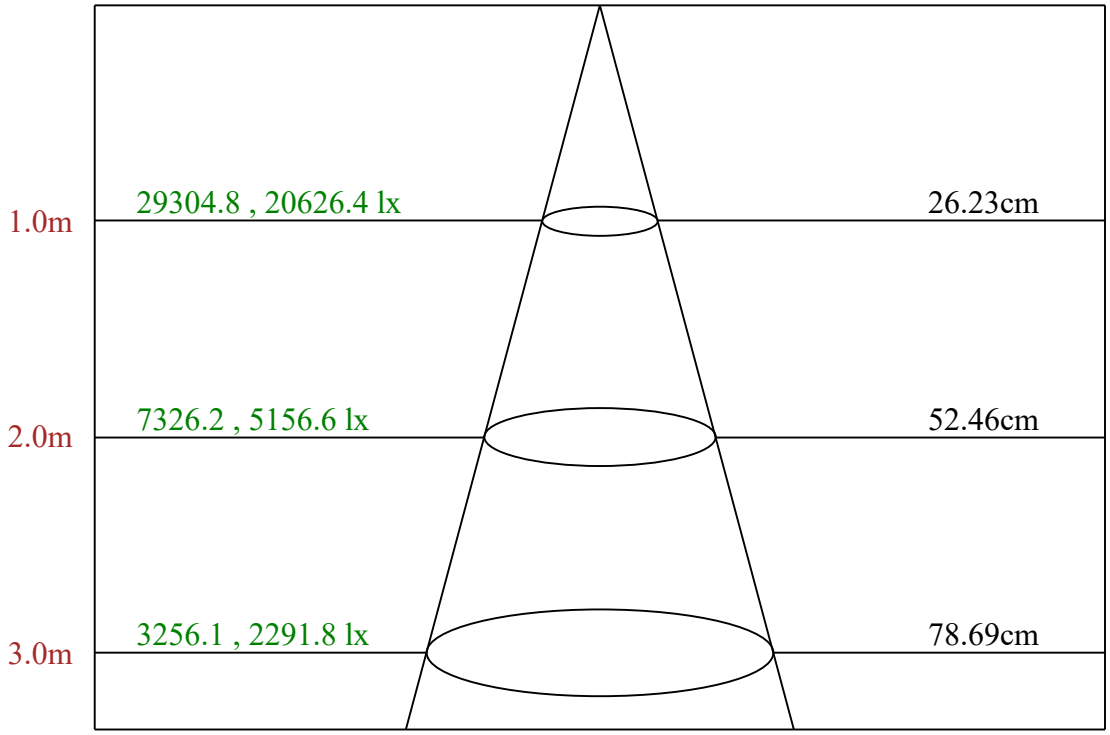
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:16.0 Right:16.0
:C90/270Left:16.0 Right:16.0

Beam Angle(50%Imax):C0/180Left:7.4 Right:7.4
:C90/270Left:7.4 Right:7.4

Lux distance Curve



Max , Ave

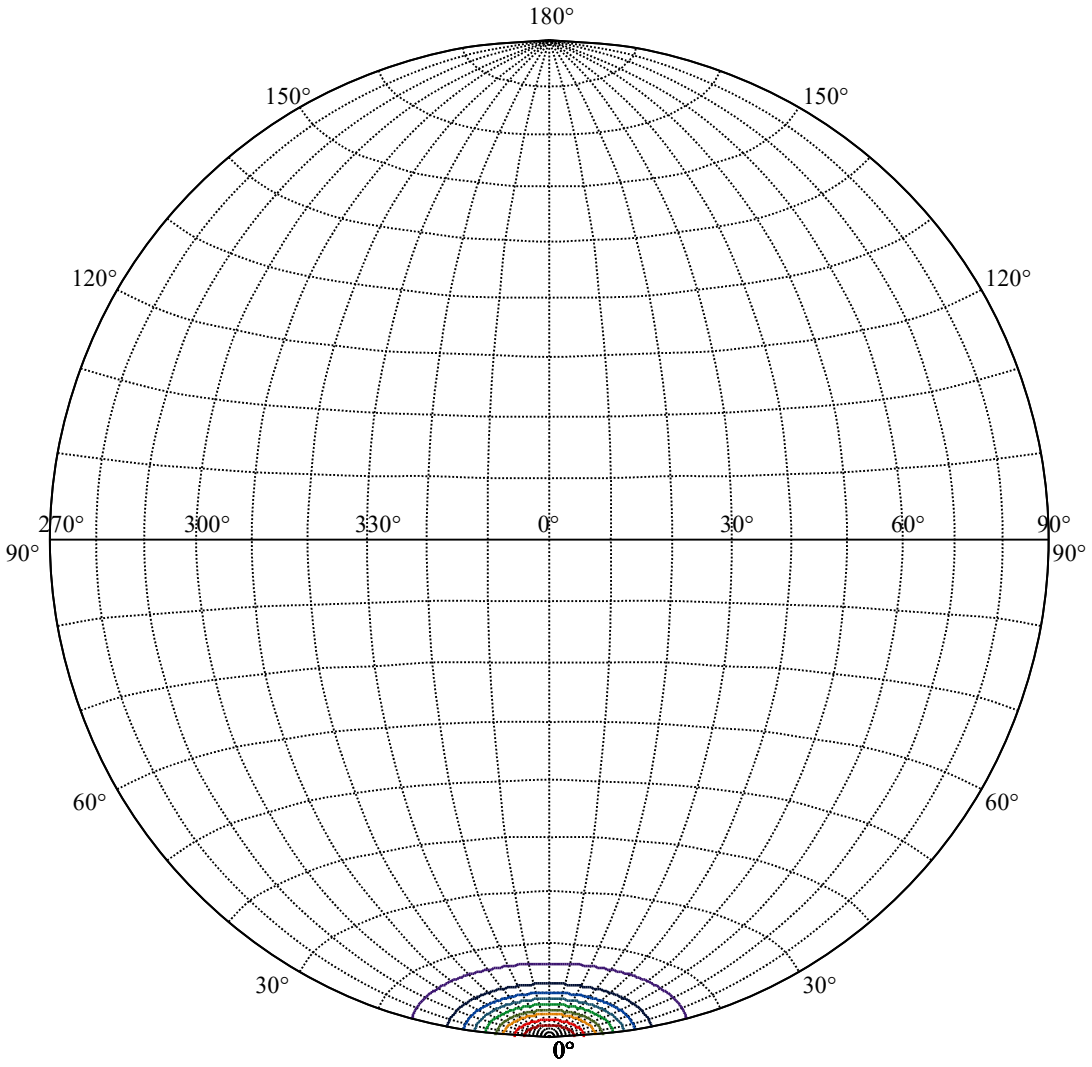
Beam angle of C0 plane 14.94

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2025/11/11
Humidity(%): 60.0%

Operator: YZQ
Distance(m): 9.28

ISO candela diagram on circular web



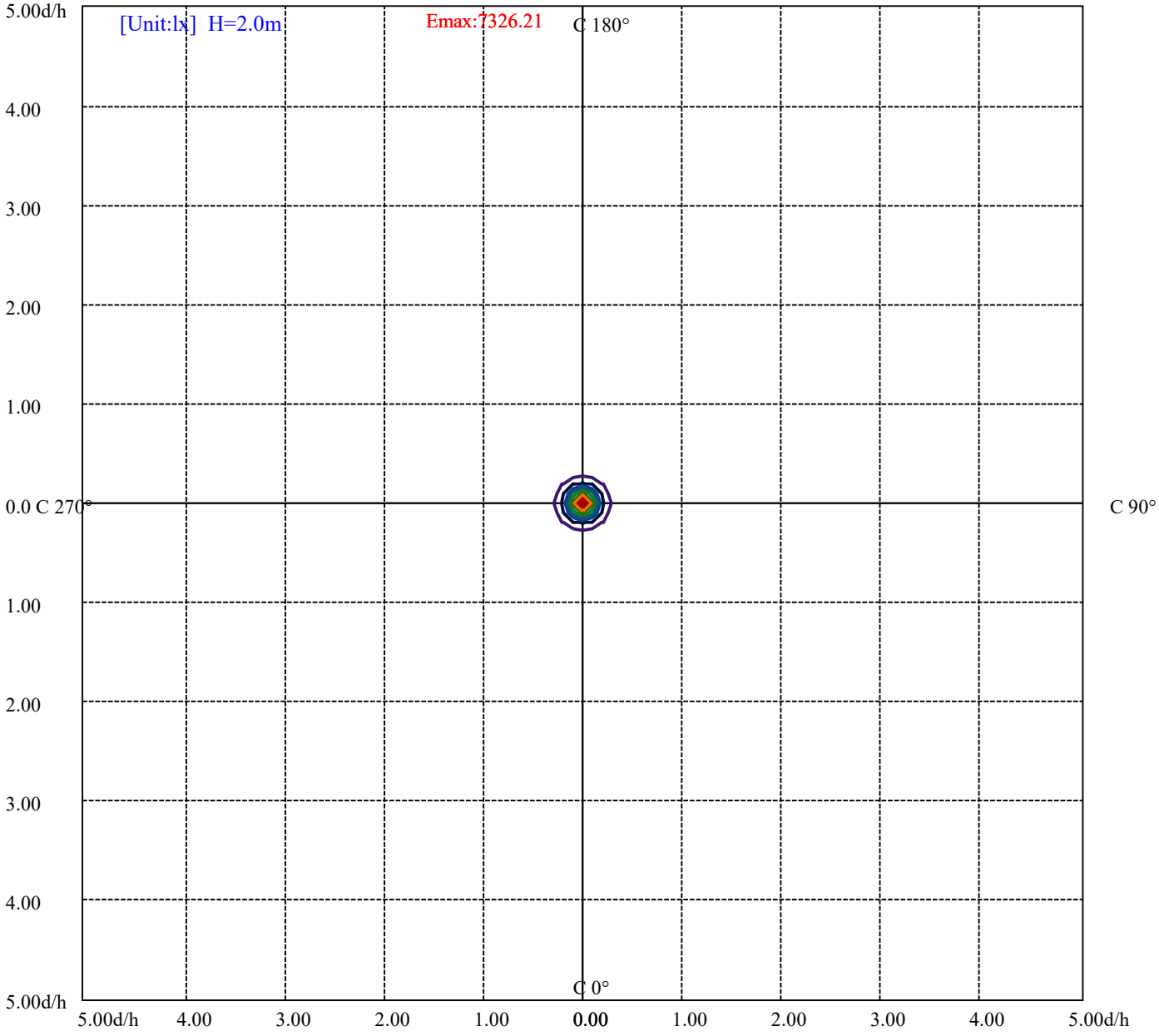
House [Unit:cd] Road

Imax:29304.80

(10%Imax) 2930.48
(20%Imax) 5860.96
(30%Imax) 8791.44
(40%Imax) 11721.9
(50%Imax) 14652.4
(60%Imax) 17582.9
(70%Imax) 20513.4
(80%Imax) 23443.8
(90%Imax) 26374.3

NT Nata 3-2998-LM

ISO illuminance diagram

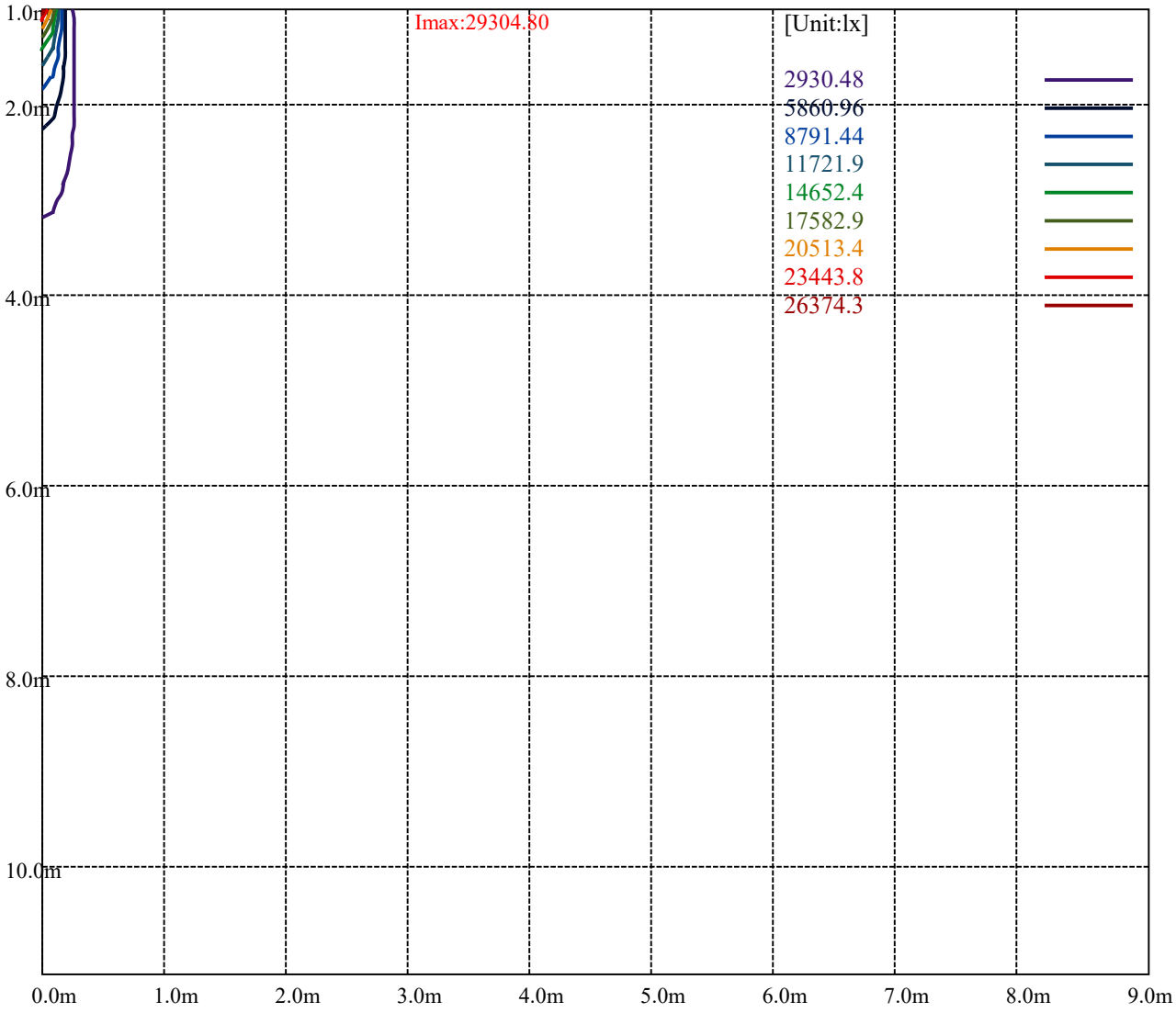


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2025/11/11
Humidity(%): 60.0%

Operator: YZQ
Distance(m): 9.28

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2025/11/11
Humidity(%): 60.0%

Operator: YZQ
Distance(m): 9.28

NT Nata 3-2998-LM

Luminance Limitting Curve(no luminous side)

Luminance Table

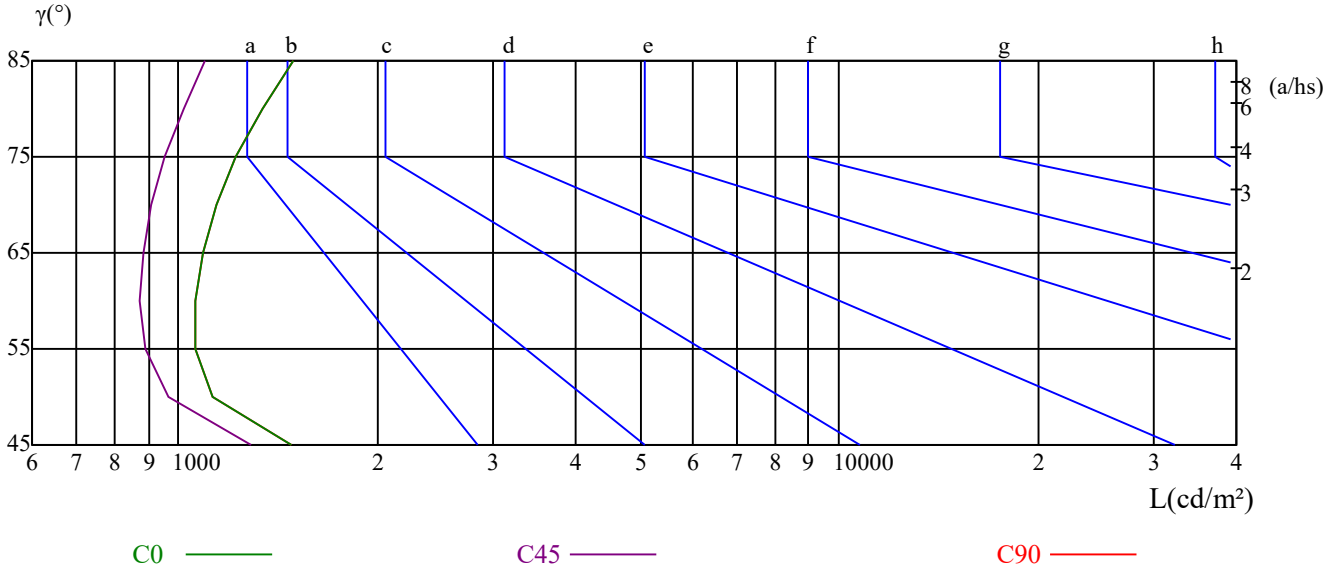
γ	45	50	55	60	65	70	75	80	85
C0	1485	1129	1059	1058	1088	1142	1224	1341	1488
C45	1286	962	889	874	883	908	952	1016	1093
C90	1485	1129	1059	1058	1088	1142	1224	1341	1488

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2489	2489	2489	3966	3966	3966	11693	11693	11693

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: 2025/11/11
Humidity(%): 60.0%

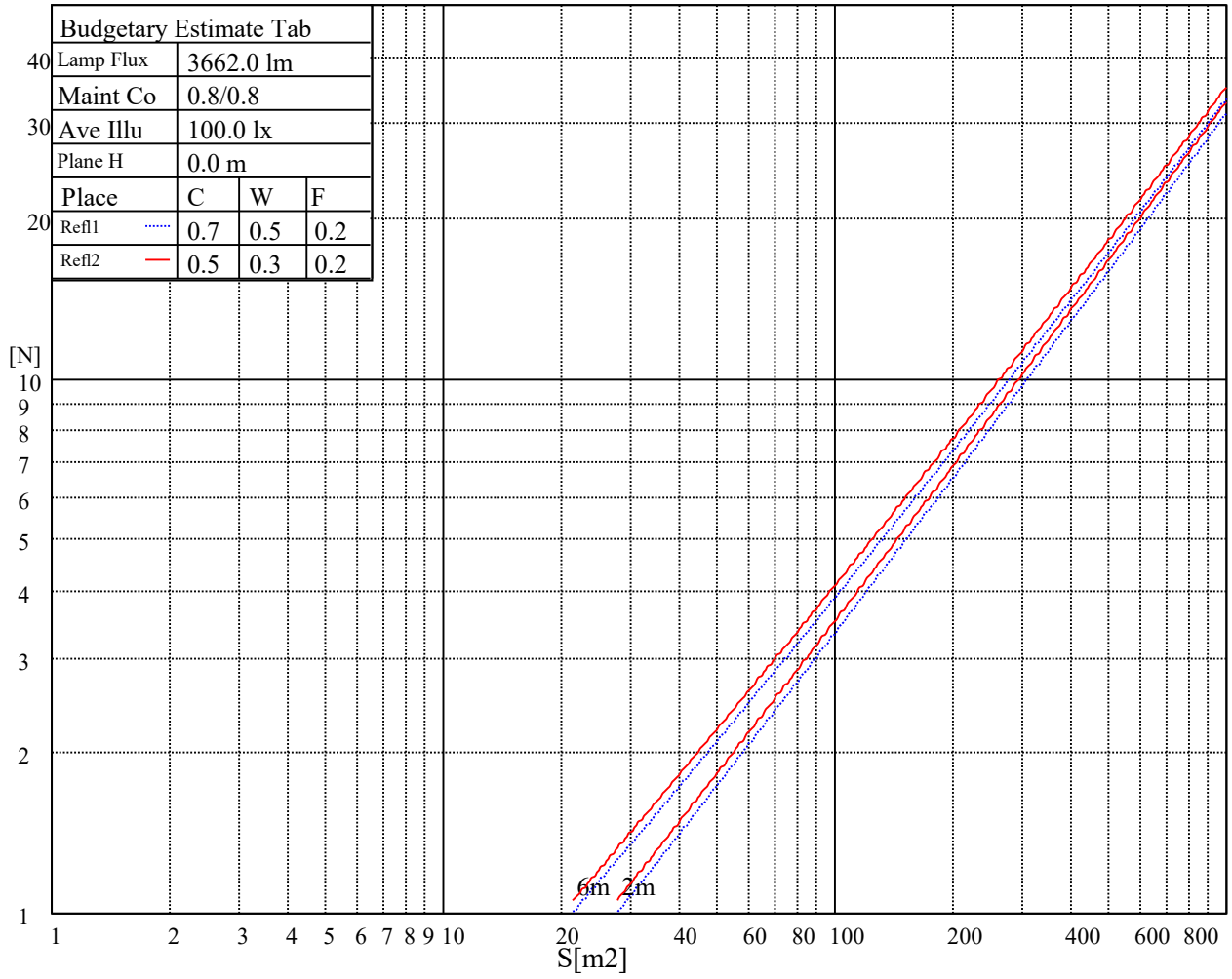
Operator: YZQ
Distance(m): 9.28

Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	15.48	16.38	15.85	16.69	17.00	15.08	15.98	15.45	16.29	16.60
	3H	15.29	16.08	15.68	16.42	16.77	14.89	15.69	15.28	16.02	16.37
	4H	15.21	15.94	15.61	16.29	16.66	14.81	15.55	15.21	15.90	16.27
	6H	15.16	15.83	15.58	16.20	16.60	14.77	15.44	15.19	15.82	16.22
	8H	15.11	15.75	15.54	16.14	16.55	14.73	15.37	15.15	15.75	16.16
	12H	15.08	15.69	15.51	16.08	16.50	14.70	15.30	15.13	15.70	16.12
4H	2H	15.16	15.89	15.56	16.24	16.61	14.76	15.49	15.16	15.85	16.21
	3H	14.93	15.55	15.36	15.95	16.37	14.54	15.16	14.97	15.55	15.97
	4H	14.90	15.43	15.34	15.85	16.30	14.51	15.04	14.95	15.46	15.91
	6H	14.83	15.30	15.30	15.75	16.20	14.45	14.92	14.92	15.37	15.82
	8H	14.83	15.26	15.32	15.72	16.20	14.45	14.89	14.94	15.35	15.82
	12H	14.85	15.25	15.35	15.71	16.23	14.48	14.88	14.98	15.34	15.86
8H	4H	14.71	15.14	15.20	15.60	16.08	14.32	14.76	14.81	15.22	15.69
	6H	14.66	15.02	15.17	15.50	16.01	14.29	14.64	14.80	15.12	15.64
	8H	14.74	15.03	15.28	15.56	16.06	14.38	14.67	14.91	15.19	15.69
	12H	14.82	15.04	15.36	15.55	16.08	14.46	14.68	15.01	15.20	15.72
12H	4H	14.66	15.06	15.15	15.51	16.04	14.28	14.68	14.77	15.13	15.65
	6H	14.67	14.96	15.20	15.48	15.98	14.29	14.59	14.83	15.11	15.61
	8H	14.72	14.94	15.27	15.46	15.98	14.36	14.58	14.91	15.10	15.62

Variation with the observer position at spacings:		
S = 1.0H	6.4/-10.5	6.4/-10.5
S = 1.5H	9.0/-8.6	9.0/-8.6
S = 2.0H	10.8/-7.2	10.8/-7.2
Standard tables:	BK1	BK1
Uncorrected UGR	-4.9	-4.9

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25

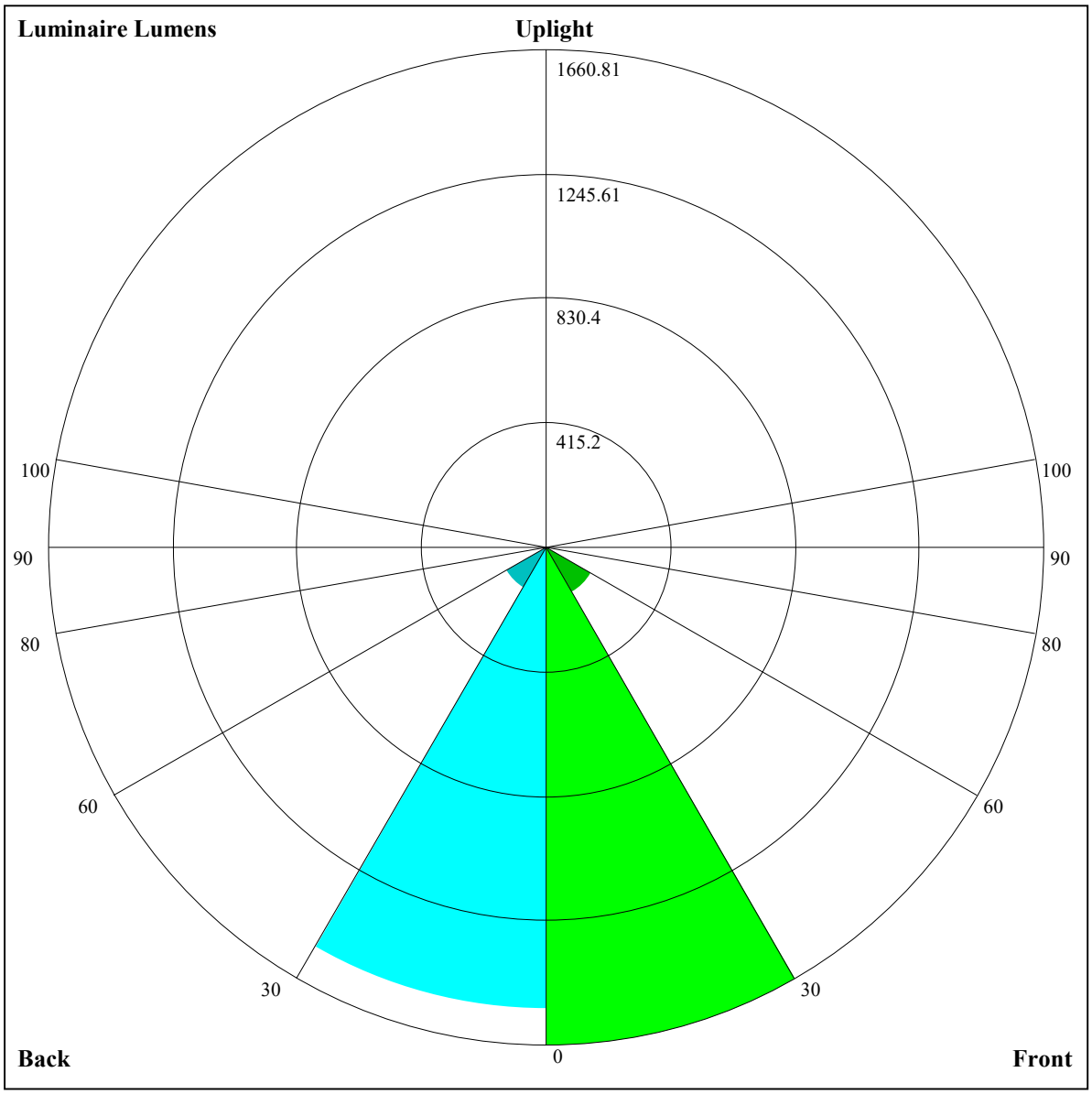
Budgetary Estimate Table



Equipment: GMS1980 Date: 2025/11/11 Operator: YZQ
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 9.28

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	1.15	1.15	1.15	1.12	1.12	1.12	1.07	1.07	1.07	1.03	1.03	1.03	0.99	0.99	0.99	0.97
1	1.09	1.07	1.06	1.07	1.05	1.04	1.03	1.02	1.01	1.00	0.99	0.98	0.96	0.96	0.95	0.93
2	1.04	1.01	0.99	1.02	1.00	0.98	0.99	0.97	0.95	0.97	0.95	0.93	0.94	0.93	0.92	0.90
3	1.00	0.96	0.93	0.98	0.95	0.93	0.96	0.93	0.91	0.94	0.92	0.90	0.92	0.90	0.88	0.87
4	0.96	0.92	0.89	0.95	0.91	0.88	0.93	0.90	0.87	0.91	0.89	0.87	0.89	0.87	0.86	0.84
5	0.92	0.88	0.85	0.91	0.88	0.85	0.90	0.87	0.84	0.88	0.86	0.84	0.87	0.85	0.83	0.82
6	0.89	0.85	0.82	0.89	0.85	0.82	0.87	0.84	0.82	0.86	0.83	0.81	0.85	0.82	0.81	0.80
7	0.86	0.82	0.80	0.86	0.82	0.79	0.85	0.82	0.79	0.84	0.81	0.79	0.83	0.80	0.78	0.77
8	0.84	0.80	0.77	0.83	0.80	0.77	0.83	0.79	0.77	0.82	0.79	0.77	0.81	0.78	0.76	0.75
9	0.82	0.78	0.75	0.81	0.78	0.75	0.80	0.77	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
10	0.80	0.76	0.73	0.79	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.73	0.77	0.75	0.73	0.72



Luminaire Lumens:
FL=1660.81,FM=170.77,FH=7.7,FVH=4.01
BL=1538.62,BM=154.58,BH=7.71,BVH=4.02
UL=0,UH=0

BUG Rating:B3-U0-G0

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	29457.66	30008.82	29776.30	28665.37	27158.30	25160.35	17056.70	17056.70	16345.36
45.0	28630.92	29561.00	29931.31	29543.78	28544.80	26968.84	24333.62	21801.73	19037.33
90.0	29741.85	29853.80	29225.14	27657.79	25840.69	23558.55	16673.47	16673.47	14549.79
135.0	29388.77	29965.76	29974.37	29121.80	27769.74	25926.81	23593.00	20277.44	17435.53
180.0	29457.66	28398.40	26753.54	24703.92	21620.89	18847.87	15945.68	13103.78	10055.18
225.0	28630.92	27201.36	24790.04	20337.72	16713.08	15981.08	13110.75	10565.09	7999.62
270.0	29741.85	28984.01	27718.07	25504.83	23188.24	20578.85	17745.56	14180.26	11510.59
315.0	29388.77	28226.17	26150.71	23937.47	17007.61	17007.61	14853.79	11424.55	9101.94
360.0	29457.66	30008.82	29776.30	28665.37	27158.30	25160.35	17056.70	17056.70	16345.36

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	12867.04	10395.44	8310.51	6682.01	5210.25	4332.70	3643.76	3116.71	2693.01
45.0	16212.65	12802.36	10391.05	8367.26	6429.60	5284.23	4388.59	4388.59	3040.07
90.0	11900.79	9103.66	7339.96	5959.48	4902.81	3911.58	3315.64	2849.74	2394.18
135.0	14602.24	11355.57	9194.00	7437.19	5757.88	4758.90	4345.53	4345.53	2790.32
180.0	8074.46	6524.33	5335.90	4440.26	4440.26	3078.82	2587.08	2277.92	1979.95
225.0	6492.55	5352.34	4477.38	3635.14	3124.46	2712.82	2386.43	1908.47	1696.88
270.0	9211.22	7385.51	5714.82	4733.07	4526.38	4526.38	2826.49	2464.79	2115.15
315.0	7286.56	5927.62	4679.76	3921.06	3329.42	2868.69	2415.71	2139.27	1699.29
360.0	12867.04	10395.44	8310.51	6682.01	5210.25	4332.70	3643.76	3116.71	2693.01

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	2291.70	1899.86	1694.64	1661.57	1550.99	1446.27	1377.29	1321.66	1270.33
45.0	2631.00	2243.47	2013.53	1830.96	1687.15	1553.66	1469.27	1395.20	1336.64
90.0	2124.63	1702.13	1702.13	1579.50	1486.66	1392.36	1331.65	1284.97	1249.32
135.0	2436.38	2156.49	1899.00	1733.65	1604.47	1511.46	1412.43	1348.70	1299.61
180.0	1793.07	1651.84	1541.61	1435.68	1367.65	1314.25	1271.19	1227.27	1199.72
225.0	1696.88	1553.75	1464.10	1389.18	1317.18	1273.26	1230.03	1200.92	1176.21
270.0	1892.97	1723.32	1569.16	1474.43	1393.48	1334.06	1275.50	1238.47	1210.91
315.0	1699.29	1572.95	1477.19	1398.13	1317.18	1273.61	1235.45	1197.91	1173.54
360.0	2291.70	1899.86	1694.64	1661.57	1550.99	1446.27	1377.29	1321.66	1270.33

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1236.40	1206.86	1182.84	1154.16	1106.71	1029.37	923.10	761.46	618.33
45.0	1283.25	1248.80	1218.66	1187.66	1161.82	1097.23	999.92	881.08	722.62
90.0	1218.75	1188.09	1166.47	1138.23	1053.57	949.11	836.47	676.03	542.12
135.0	1253.97	1216.94	1199.72	1169.57	1134.27	1045.56	935.33	812.18	680.42
180.0	1175.60	1144.60	1091.21	1011.12	874.19	747.59	607.22	460.82	460.82
225.0	1151.49	1090.60	997.08	883.40	761.03	596.11	466.25	343.53	226.84
270.0	1185.08	1154.93	1123.07	1050.73	921.55	807.88	678.70	510.77	441.87
315.0	1146.32	1115.41	1044.36	942.22	791.34	665.01	533.07	406.22	258.79
360.0	1236.40	1206.86	1182.84	1154.16	1106.71	1029.37	923.10	761.46	618.33

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	471.41	304.77	191.61	102.05	40.48	25.40	21.19	18.00	16.28
45.0	588.27	453.93	453.93	176.03	85.43	39.79	25.84	20.24	18.08
90.0	408.29	262.58	158.46	76.04	29.19	23.08	18.60	16.97	14.64
135.0	508.18	441.87	441.87	147.95	54.94	27.82	22.13	18.17	16.19
180.0	181.80	92.66	36.86	24.29	19.72	17.31	15.50	13.00	11.02
225.0	106.96	48.48	25.49	20.67	17.74	15.67	13.43	11.54	11.02
270.0	441.87	131.68	62.52	30.14	22.65	17.31	15.76	13.95	11.20
315.0	152.52	73.03	29.62	22.39	17.91	16.10	14.21	11.20	10.51
360.0	471.41	304.77	191.61	102.05	40.48	25.40	21.19	18.00	16.28

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	13.78	11.54	10.85	10.33	9.82	9.39	9.04	8.87	8.70
45.0	16.28	13.78	11.71	11.11	10.42	9.82	9.47	9.13	8.87
90.0	11.45	10.85	10.33	9.73	9.21	8.87	8.61	8.53	8.35
135.0	14.21	11.28	10.59	10.08	9.47	9.13	8.87	8.61	8.44
180.0	10.51	9.99	9.56	9.13	8.96	8.70	8.53	8.44	8.27
225.0	10.33	9.90	9.56	9.21	8.96	8.78	8.61	8.35	8.27
270.0	10.51	10.08	9.65	9.21	8.96	8.70	8.53	8.35	8.18
315.0	10.08	9.65	9.30	8.96	8.70	8.53	8.44	8.18	8.18
360.0	13.78	11.54	10.85	10.33	9.82	9.39	9.04	8.87	8.70

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	8.44	8.27	8.18	8.10	8.01	7.92	7.84	7.84	7.75
45.0	8.70	8.53	8.35	8.27	8.18	8.10	7.92	7.84	7.84
90.0	8.18	8.10	8.01	7.92	7.84	7.75	7.75	7.66	7.66
135.0	8.35	8.18	8.10	8.01	7.92	7.92	7.84	7.75	7.75
180.0	8.18	8.10	8.01	7.92	7.92	7.84	7.84	7.84	7.66
225.0	8.18	8.10	8.01	7.92	7.84	7.75	7.75	7.75	7.66
270.0	8.10	8.01	7.92	7.92	7.84	7.84	7.75	7.75	7.66
315.0	8.10	7.92	7.92	7.84	7.75	7.66	7.66	7.58	7.58
360.0	8.44	8.27	8.18	8.10	8.01	7.92	7.84	7.84	7.75

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	7.66	7.75	7.66	7.66	7.66	7.66	7.58	7.49	7.58
45.0	7.75	7.75	7.66	7.66	7.66	7.58	7.58	7.49	7.49
90.0	7.66	7.58	7.58	7.58	7.49	7.49	7.49	7.49	7.41
135.0	7.75	7.66	7.66	7.58	7.49	7.58	7.49	7.49	7.49
180.0	7.66	7.66	7.58	7.58	7.58	7.58	7.49	7.49	7.49
225.0	7.66	7.58	7.58	7.58	7.58	7.49	7.49	7.41	7.41
270.0	7.66	7.58	7.58	7.58	7.49	7.49	7.41	7.49	7.41
315.0	7.58	7.49	7.49	7.49	7.49	7.49	7.41	7.41	7.41
360.0	7.66	7.75	7.66	7.66	7.66	7.66	7.58	7.49	7.58

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	7.49	7.49	7.49	7.49	7.49	7.41	7.49	7.49	7.41
45.0	7.49	7.49	7.41	7.41	7.41	7.41	7.41	7.41	7.41
90.0	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.32	7.32
135.0	7.49	7.49	7.41	7.41	7.49	7.49	7.41	7.41	7.49
180.0	7.49	7.49	7.41	7.49	7.49	7.41	7.49	7.49	7.49
225.0	7.41	7.41	7.41	7.41	7.41	7.41	7.41	7.32	7.41
270.0	7.41	7.41	7.41	7.41	7.41	7.32	7.41	7.41	7.41
315.0	7.41	7.41	7.32	7.32	7.41	7.32	7.32	7.32	7.32
360.0	7.49	7.49	7.49	7.49	7.49	7.41	7.49	7.49	7.41

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.49	7.49	7.41	7.49	7.41	7.41	7.41	7.41	7.41
45.0	7.41	7.32	7.41	7.32	7.41	7.32	7.32	7.32	7.32
90.0	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32	7.32
135.0	7.49	7.49	7.41	7.41	7.49	7.49	7.32	7.32	7.32
180.0	7.49	7.49	7.58	7.49	7.32	7.32	7.32	7.49	7.41
225.0	7.32	7.32	7.41	7.32	7.32	7.32	7.32	7.32	7.32
270.0	7.32	7.41	7.32	7.32	7.32	7.32	7.32	7.32	7.32
315.0	7.32	7.32	7.32	7.32	7.32	7.23	7.32	7.23	7.32
360.0	7.49	7.49	7.41	7.49	7.41	7.41	7.41	7.41	7.41

Intensity data(cd)

C/γ(°)	90.0
0.0	7.58
45.0	7.32
90.0	7.32
135.0	7.32
180.0	7.32
225.0	7.32
270.0	7.32
315.0	7.23
360.0	7.58