

# IES Indoor Report

Photometric Filename:LGDL40W4K-WH.IES.IES

## Indoor Luminaire Photometric Data

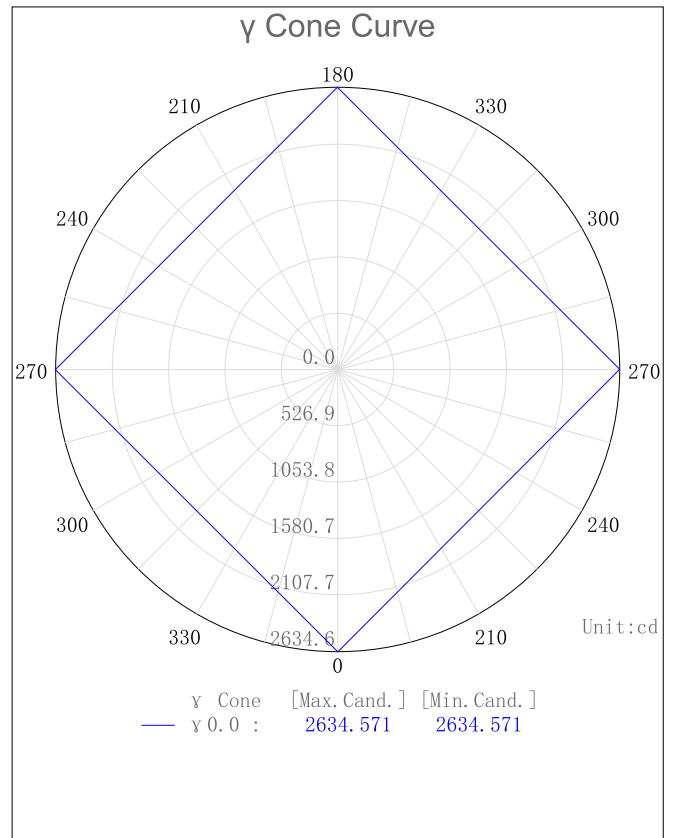
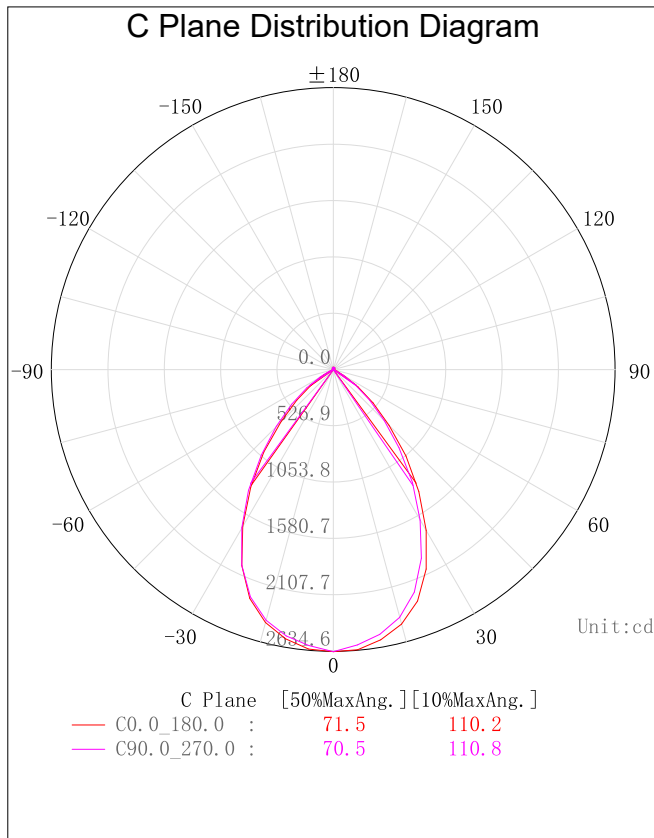
### Description Information

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Date: 2019/05/20
Manufacture:	ShldAngle(°):	Test Machine:GON-2000
Test Lab:	Frequency(Hz):	Lamp CCT(K): Ra:
Lum. Size(W*L*H):0.220m*0.220m*0.100m	Lum. Area(m2):0.070	Lum. W(kg): 2.000
Test System: C, γ	Test Step: C=90.0 γ=5.0	Temp.(°C): 25
		Humidity(%):

### Character Parameter

Lamp Speciality Parameter		Luminaire Speciality Parameter	
Rated Flux(lm): 3597.920	Luminaire Flux: 3597.921lm	Field Angle(10%Imax): 110.2	
Rated Power(W):	Luminaire Efficiency: 100.00%	Down Lumens&Percent: 3557.508lm 98.88%	
Rated Voltage(V):	Luminaire EER(lm/W): 90.332	Up Lumens&Percent: 40.414lm 1.12%	
Tested Power(W): 39.830	Max. Cand. (cd): 2634.571	S/MH: C0_a180=1.040 C90_270=1.019	
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: Semi-Direct	
Tested Electric:U=238.7V, I=0.173A, PF=0.000	Beam Angle(50%Imax): 71.5	ErP Φ use(90°): 2990.265lm	
Lamp Size(W*L*H):0.220m*0.220m*0.100m	Left=-35.3 Right=36.1	IRF: 167.061%	

### Lighting Distribution Diagram



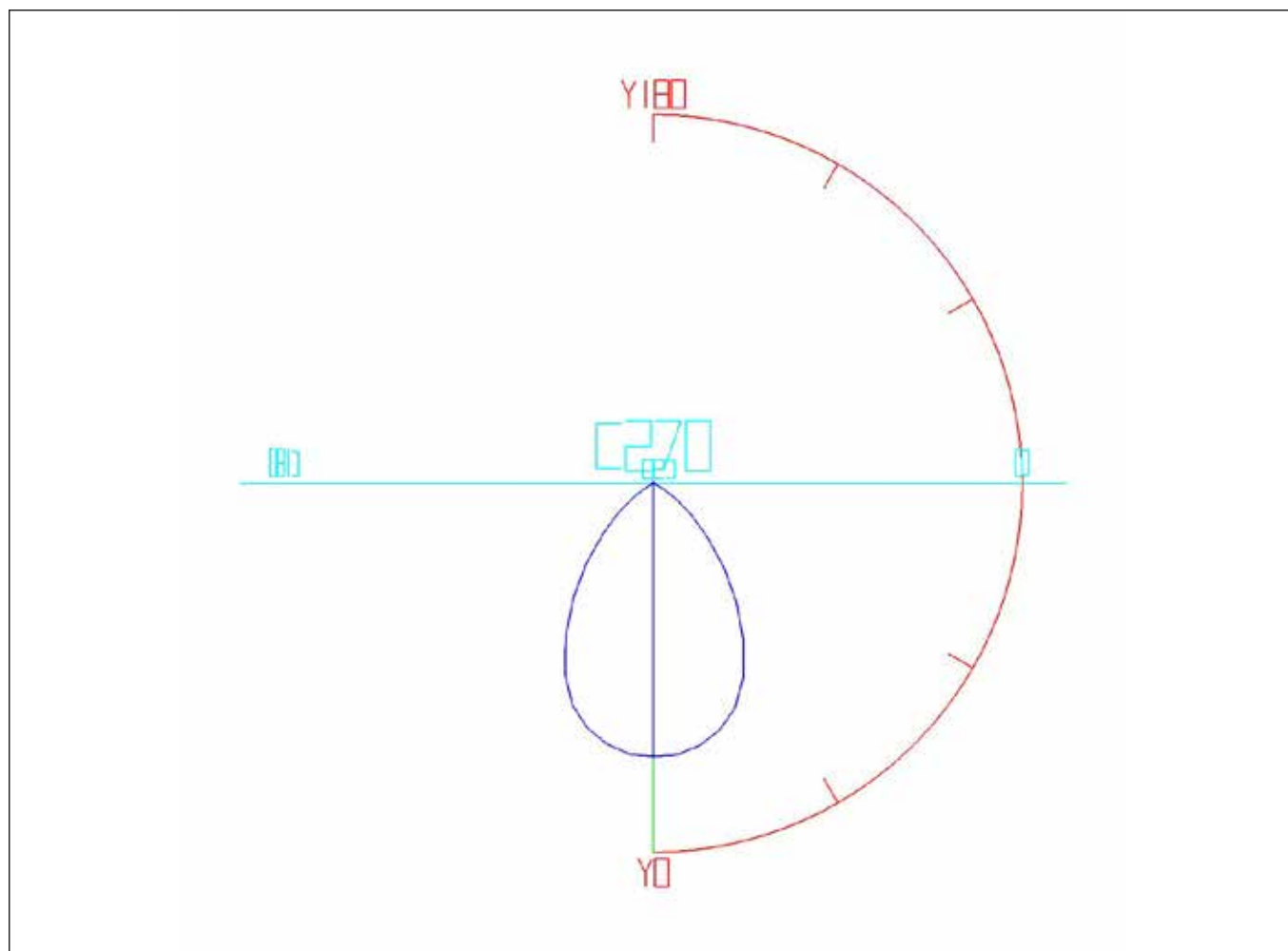
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## 3D Light Intensity Distribution Modal

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20

## 3D Light Intensity Distribution Modal



Curves: 3D Model — Fixture — Vert. HUD — Hori. HUD —  
View Angles: Orient:0 Tilt:0 Roll:0 Spin:0

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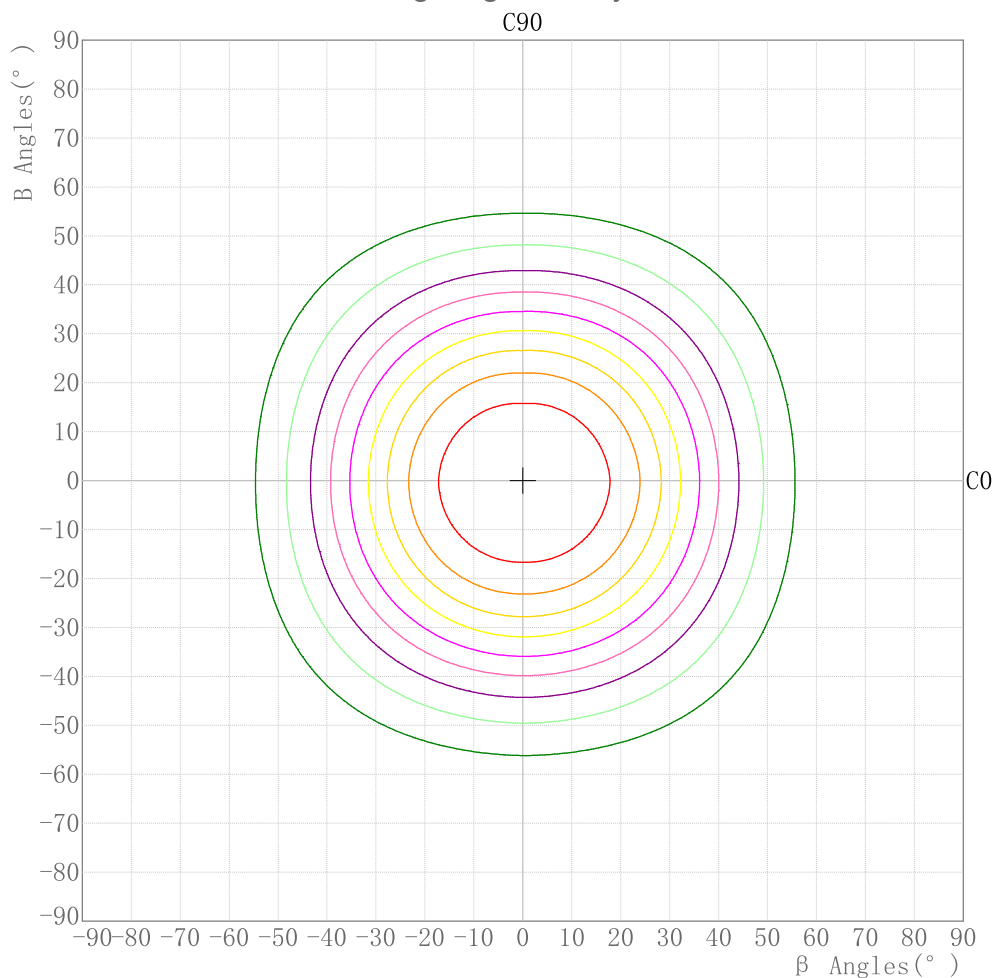
## Zonal Flux Tabulation

Zone ( y )	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	62.64	62.64	1.74	1.74
5.0-10.0	184.06	246.70	5.12	6.86
10.0-15.0	295.01	541.71	8.20	15.06
15.0-20.0	387.08	928.79	10.76	25.81
20.0-25.0	448.27	1377.06	12.46	38.27
25.0-30.0	468.17	1845.23	13.01	51.29
30.0-35.0	447.48	2292.71	12.44	63.72
35.0-40.0	394.62	2687.33	10.97	74.69
40.0-45.0	319.64	3006.97	8.88	83.58
45.0-50.0	238.63	3245.60	6.63	90.21
50.0-55.0	160.90	3406.51	4.47	94.68
55.0-60.0	89.98	3496.49	2.50	97.18
60.0-65.0	37.31	3533.80	1.04	98.22
65.0-70.0	11.30	3545.10	0.31	98.53
70.0-75.0	4.56	3549.66	0.13	98.66
75.0-80.0	3.54	3553.20	0.10	98.76
80.0-85.0	2.94	3556.14	0.08	98.84
85.0-90.0	1.36	3557.51	0.04	98.88
90.0-95.0	0.00	3557.51	0.00	98.88
95.0-100.0	0.00	3557.51	0.00	98.88
100.0-105.0	0.05	3557.55	0.00	98.88
105.0-110.0	0.42	3557.97	0.01	98.89
110.0-115.0	1.11	3559.08	0.03	98.92
115.0-120.0	1.87	3560.95	0.05	98.97
120.0-125.0	2.61	3563.56	0.07	99.04
125.0-130.0	3.27	3566.83	0.09	99.14
130.0-135.0	3.80	3570.62	0.11	99.24
135.0-140.0	4.15	3574.77	0.12	99.36
140.0-145.0	4.28	3579.05	0.12	99.48
145.0-150.0	4.21	3583.26	0.12	99.59
150.0-155.0	3.96	3587.22	0.11	99.70
155.0-160.0	3.54	3590.76	0.10	99.80
160.0-165.0	2.97	3593.73	0.08	99.88
165.0-170.0	2.27	3595.99	0.06	99.95
170.0-175.0	1.43	3597.43	0.04	99.99
175.0-180.0	0.49	3597.92	0.01	100.00

**Rectangle ISO Lighting Intensity Diagram**

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20

**ISO Lighting Intensity Curve**



Maximum Light Intensity(cd): 2634.57  
 Maximum Cand.@Angle: H=0.0°,V=0.0°

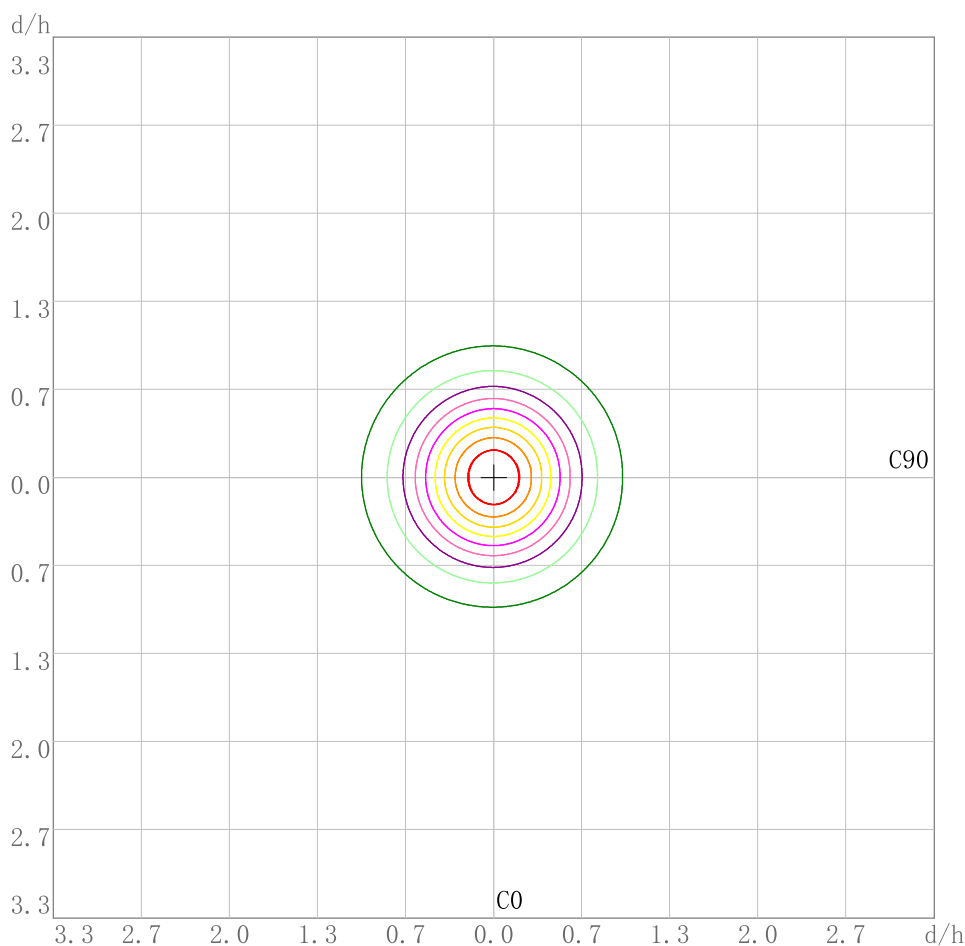
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## Plane ISO-Illuminance Diagram

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20

### Plane ISO-Illuminance Curve



- Curves:  
unit:lx
- [EMax] =292.730
  - [EMax\*90%]=263.457
  - [EMax\*80%]=234.184
  - [EMax\*70%]=204.911
  - [EMax\*60%]=175.638
  - [EMax\*50%]=146.365
  - [EMax\*40%]=117.092
  - [EMax\*30%]=87.819
  - [EMax\*20%]=58.546
  - [EMax\*10%]=29.273

Working Plane Luminaire Mounting Height(m): 3.00  
 Working Plane Maximum Illuminance(lx): 292.73  
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

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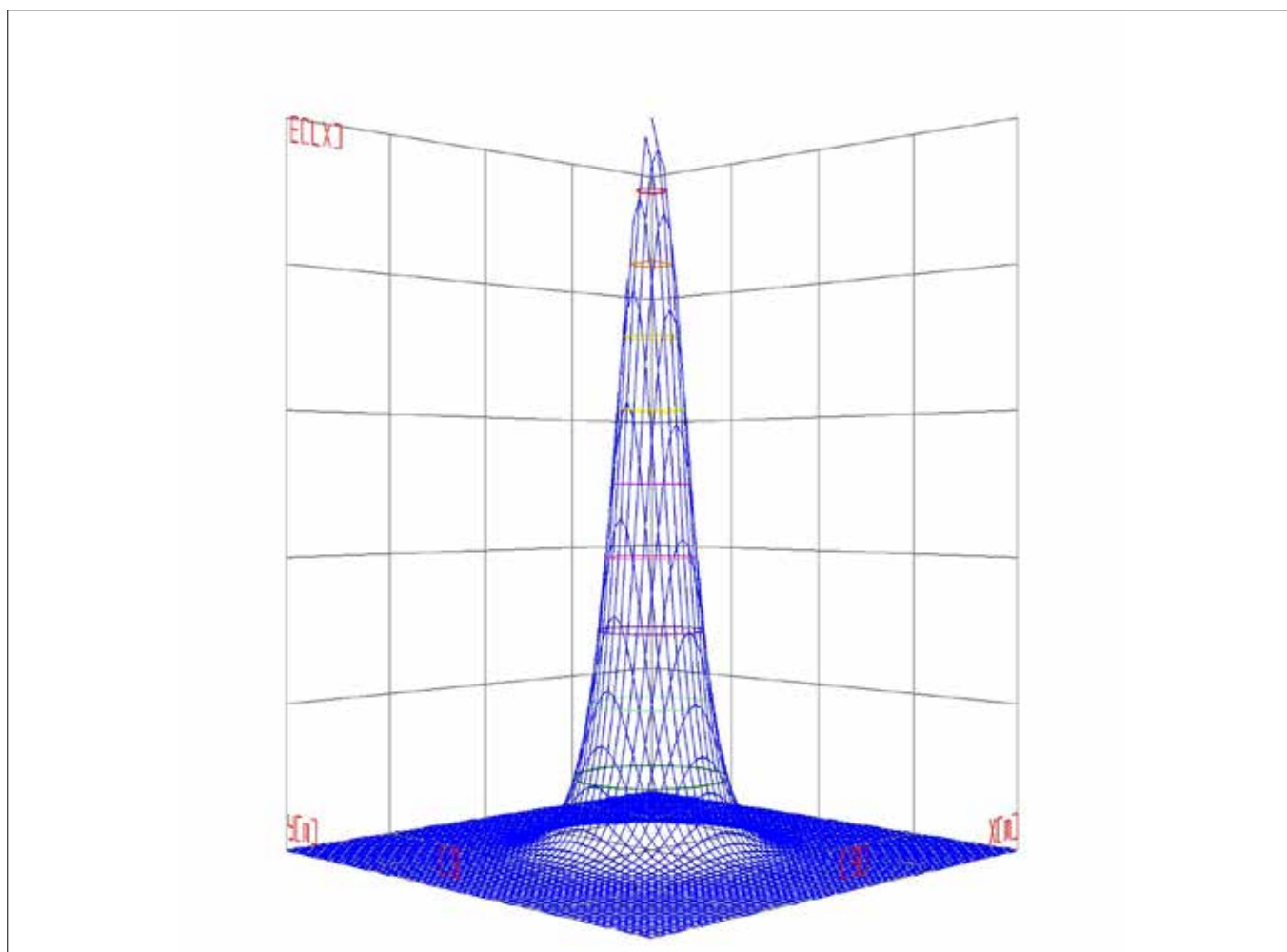
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## 3D Plane ISO Illuminance Diagram

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20

### 3D Plane Illuminance Modal

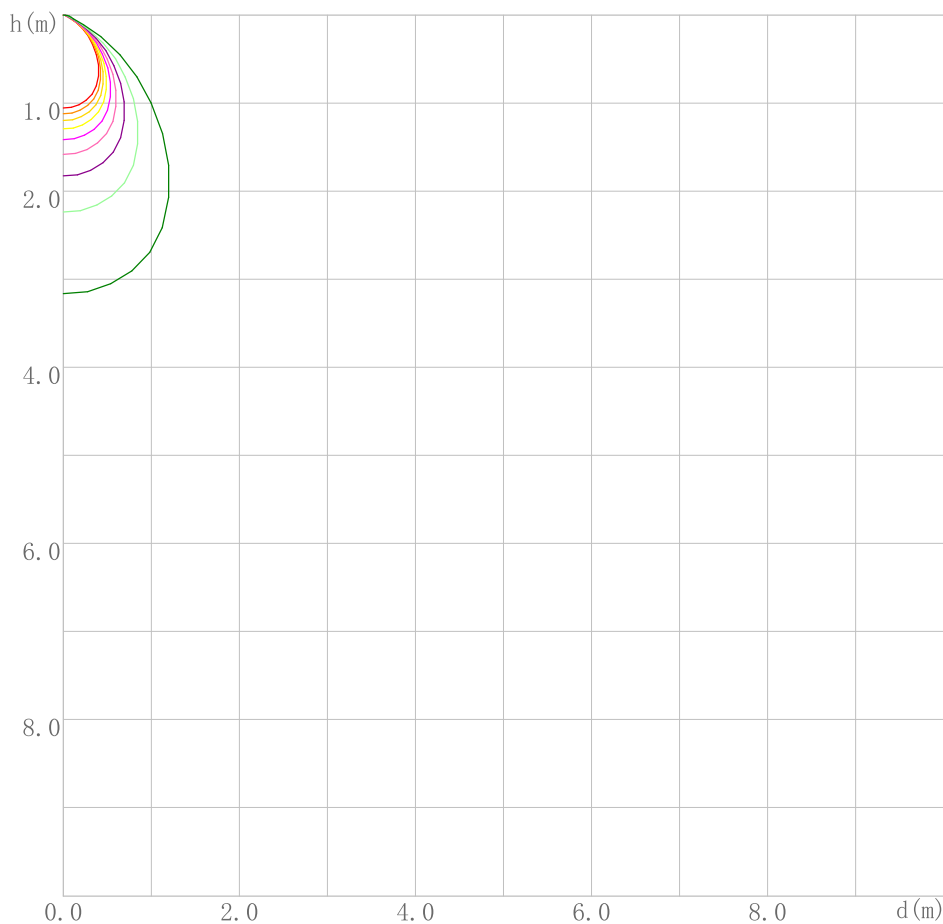


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —  
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

**Space ISO Illuminance Diagram**

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20

Space ISO Illuminance Curve

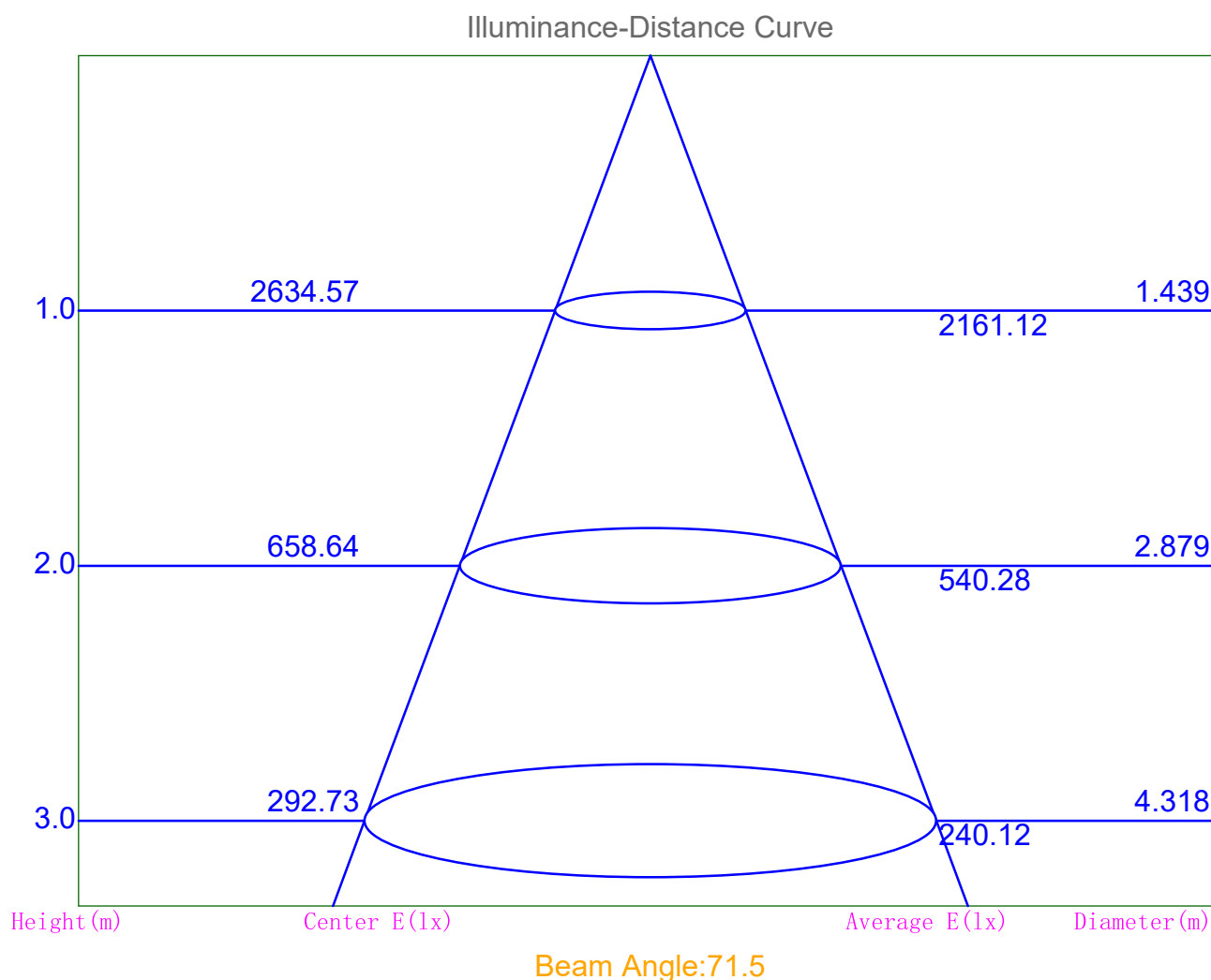


- Curves:  
unit:lx  
[EMax] =2634.571
- [EMax\*90%]=2371.114
  - [EMax\*80%]=2107.657
  - [EMax\*70%]=1844.200
  - [EMax\*60%]=1580.743
  - [EMax\*50%]=1317.286
  - [EMax\*40%]=1053.828
  - [EMax\*30%]=790.371
  - [EMax\*20%]=526.914
  - [EMax\*10%]=263.457

Space Plane Maximum Illuminance and @Angle:2634.57,0.0deg  
Plane Maximum Lighting Intensity and @Angle:2634.571cd,0deg

**Illuminance-Distance Diagram**

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20





**Indoor Luminance Limiting Curves**

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20

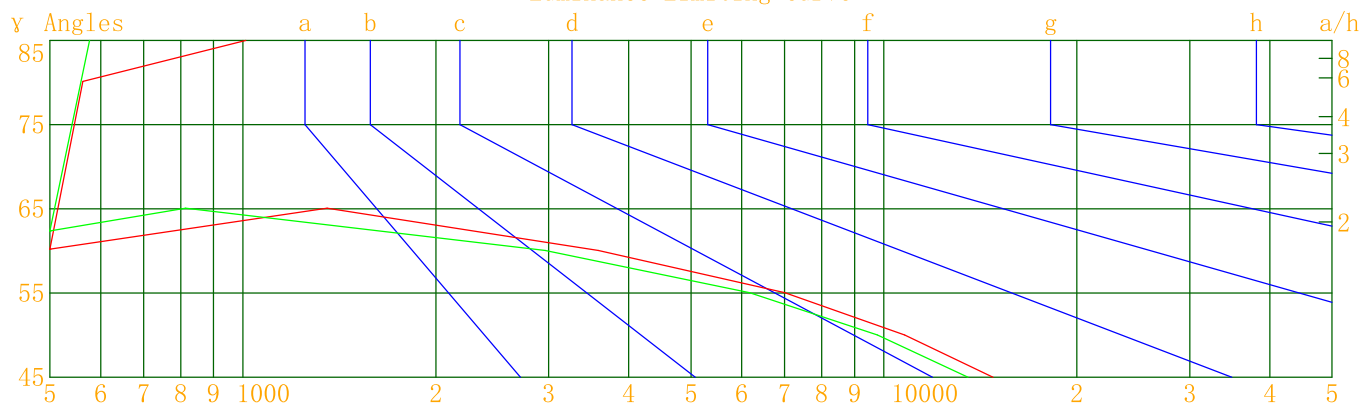
Glare Grade Table

GI	Quality	Using Illuminance							
		a	b	c	d	e	f	g	h
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	a				2000	1000	500	<=300
			b	c	d	e	f	g	h

Luminance Table

Gama (deg)	45	50	55	60	65	70	75	80	85
C0	14790	10767	7009	3584	1353	488	475	563	1010
C90	13534	9770	6177	2961	814	334	331	400	576

Luminance Limiting Curve



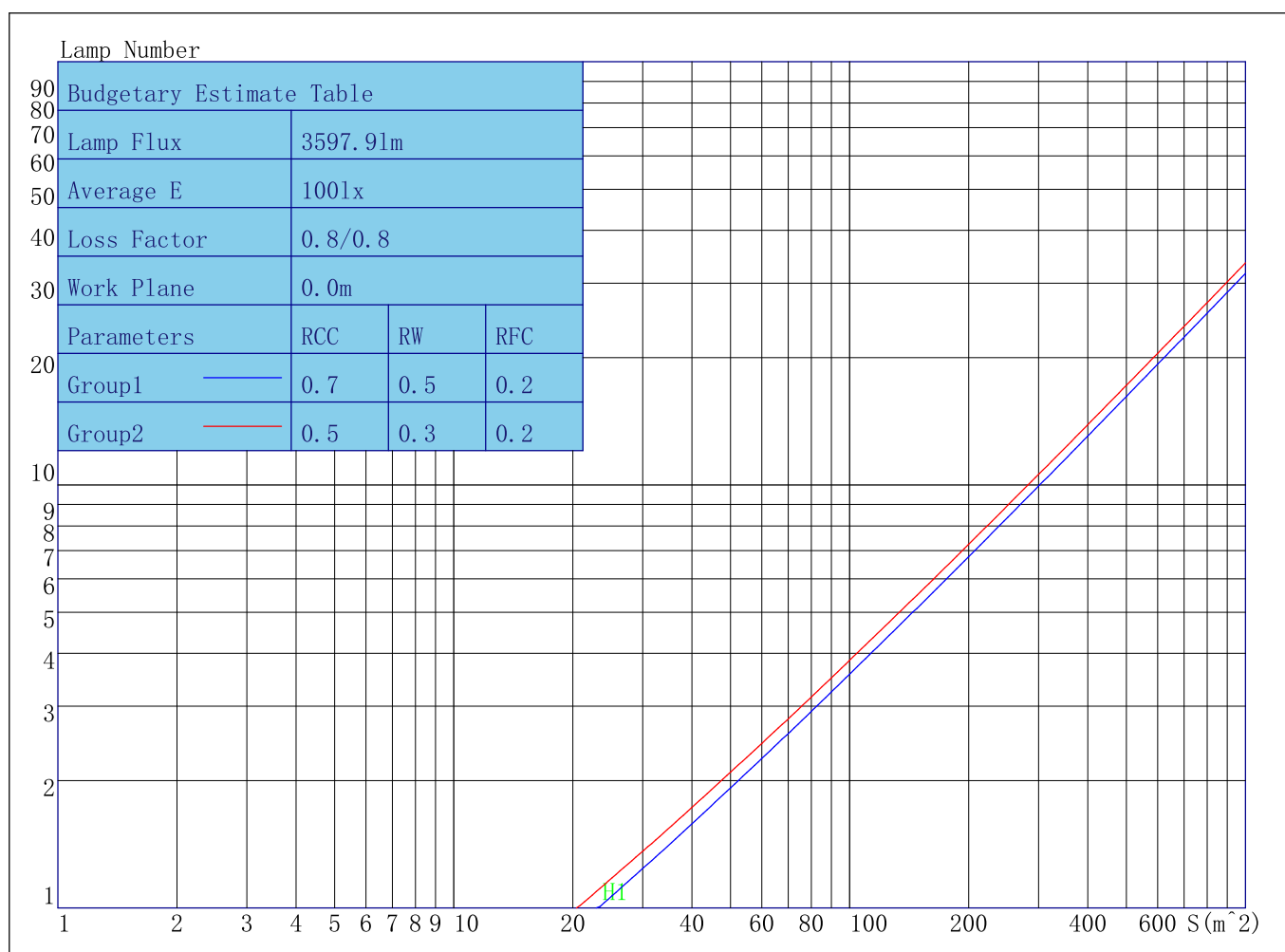
Luminous Size: Length(m)=0.220 Width(m)=0.220 Height(m)=0.100 Area(m<sup>2</sup>)=0.070400  
 Luminous Type: Without Luminous Side  
 Luminous Curves: C0-C180 Color: — C90-C270 Color: —

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## Indoor Budgetary Estimate Table

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20



Parameters1:      Rhocc = 0.7      Rhow = 0.5      Rhofc = 0.2      LLF = 0.8  
 Parameters2:      Rhocc = 0.5      Rhow = 0.3      Rhofc = 0.2      LLF = 0.8  
 Average Illuminance(lx): 100      Cavity Height:    H1(m) = 2

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## Indoor Coefficient of Utilization Table

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20

Coefficients of Utilization - Zonal Cavity Method																		
Coef.	Effective Floor Cavity Reflectance RFC=0.20																	
RhoCC (%)	80				70				50			30			10			0
RhoW (%)	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	Coefficient of Utilization(%)																	
0	119	119	119	119	116	116	116	116	110	110	110	106	106	106	101	101	101	99
1	112	109	106	104	110	107	104	102	102	100	98	98	97	95	95	94	92	90
2	105	100	95	91	103	98	93	90	94	91	88	91	88	86	88	86	84	82
3	99	91	85	81	97	90	84	80	87	82	78	84	80	77	82	78	76	74
4	93	84	77	72	90	82	76	72	80	75	71	78	73	70	76	72	69	67
5	87	77	70	65	85	76	69	65	74	68	64	72	67	63	70	66	63	61
6	81	71	64	59	80	70	64	59	68	63	58	67	62	58	65	61	57	55
7	77	66	59	54	75	65	58	54	63	58	53	62	57	53	61	56	52	51
8	72	61	54	49	71	60	54	49	59	53	49	58	53	49	57	52	48	47
9	68	57	50	45	67	56	50	45	55	49	45	54	49	45	53	48	45	43
10	64	53	47	42	63	53	46	42	52	46	42	51	45	42	50	45	41	40

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## Unified Glare Rating Table

Lum. Name: LGDL40W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/05/20

## Unified Glare Rating Table

Ceiling RCC	0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30	
Wall RW	0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30	
Floor RFC	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
Room Size	Vewed crosswise					Vewed endwise					
X=2H	Y=2H	20.2	22.4	21.0	23.1	23.8	19.6	21.8	20.4	22.5	23.2
	Y=3H	19.9	22.1	20.7	22.8	23.5	19.3	21.5	20.1	22.2	22.9
	Y=4H	20.3	22.2	21.1	22.9	23.5	19.7	21.5	20.5	22.2	22.9
	Y=6H	20.1	22.0	21.0	22.7	23.4	19.5	21.4	20.3	22.1	22.7
	Y=8H	20.1	21.9	20.9	22.6	23.3	19.4	21.3	20.2	22.0	22.6
	Y=12H	20.0	21.9	20.8	22.6	23.2	19.4	21.2	20.2	21.9	22.6
X=4H	Y=2H	20.2	22.1	21.0	22.8	23.4	19.6	21.5	20.4	22.2	22.8
	Y=3H	19.9	21.8	20.7	22.5	23.1	19.3	21.2	20.1	21.9	22.5
	Y=4H	18.2	19.2	19.2	20.1	21.0	17.6	18.6	18.6	19.5	20.4
	Y=6H	18.1	19.1	19.1	20.0	20.9	17.4	18.4	18.5	19.4	20.2
	Y=8H	18.0	19.0	19.1	20.0	20.8	17.4	18.4	18.4	19.3	20.2
	Y=12H	17.1	17.9	18.3	18.9	19.9	16.4	17.2	17.6	18.3	19.2
X=8H	Y=4H	18.0	19.0	19.0	19.9	20.7	17.3	18.3	18.4	19.3	20.1
	Y=6H	17.0	17.7	18.1	18.8	19.7	16.3	17.1	17.5	18.1	19.1
	Y=8H	16.5	17.1	17.7	18.2	19.2	15.8	16.4	17.0	17.5	18.5
	Y=12H	16.5	17.1	17.6	18.2	19.2	15.8	16.4	17.0	17.5	18.5
X=12H	Y=4H	17.0	17.8	18.1	18.8	19.8	16.4	17.1	17.5	18.2	19.1
	Y=6H	16.4	17.0	17.6	18.1	19.2	15.8	16.4	17.0	17.5	18.5
	Y=8H	16.4	17.0	17.6	18.1	19.1	15.7	16.3	16.9	17.5	18.5
Variations with the objver position at spacings											
	S=1.0H	4.7/-8.9					4.8/-8.5				
	S=1.5H	-5.5/-57.5					-4.9/-56.9				
	S=2.0H	-5.5/-57.5					-4.9/-56.9				

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## Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
Y 0.0	2634.57	2634.57	2634.57	2634.57
Y 5.0	2627.76	2582.25	2622.54	2589.84
Y 10.0	2565.71	2512.27	2553.77	2526.57
Y 15.0	2463.51	2398.96	2446.40	2425.62
Y 20.0	2301.28	2212.55	2276.77	2261.98
Y 25.0	2057.47	1946.23	2022.25	2017.78
Y 30.0	1734.59	1622.94	1690.21	1706.25
Y 35.0	1394.03	1287.83	1340.66	1378.49
Y 40.0	1057.02	954.76	1005.18	1043.01
Y 45.0	736.24	673.73	686.54	748.83
Y 50.0	487.25	442.13	443.63	505.50
Y 55.0	283.01	249.43	247.90	301.17
Y 60.0	126.16	104.21	104.23	141.06
Y 65.0	40.26	24.21	29.23	44.51
Y 70.0	11.75	8.05	8.17	12.29
Y 75.0	8.66	6.03	5.82	9.08
Y 80.0	6.88	4.89	4.65	6.92
Y 85.0	6.20	3.54	4.31	5.89
Y 90.0	0.00	0.00	0.00	0.00
Y 95.0	0.00	0.00	0.00	0.00
Y 100.0	0.00	0.00	0.00	0.00
Y 105.0	0.20	0.00	0.04	0.44
Y 110.0	1.43	1.10	1.44	1.72
Y 115.0	2.93	2.78	3.11	3.08
Y 120.0	4.59	4.50	4.96	4.75
Y 125.0	6.52	6.45	6.88	6.45
Y 130.0	8.42	8.35	8.89	8.25
Y 135.0	10.35	10.20	10.74	9.98
Y 140.0	12.13	12.07	12.53	11.60
Y 145.0	13.71	13.48	14.08	13.05
Y 150.0	15.19	14.93	15.49	14.35
Y 155.0	16.44	16.21	16.84	15.61
Y 160.0	17.67	17.40	17.99	16.76
Y 165.0	18.71	18.54	19.22	17.97
Y 170.0	19.73	19.47	20.14	19.06
Y 175.0	20.51	20.30	20.88	20.07
Y 180.0	20.91	20.91	20.91	20.91