

IES Indoor Report

Photometric Filename:LGDL20W4K-WH.IES

Indoor Luminaire Photometric Data

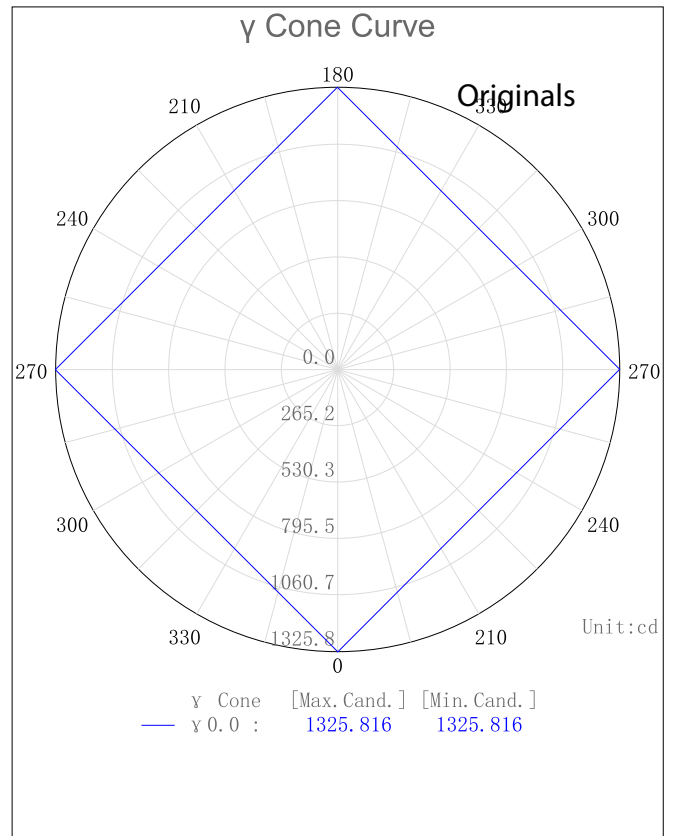
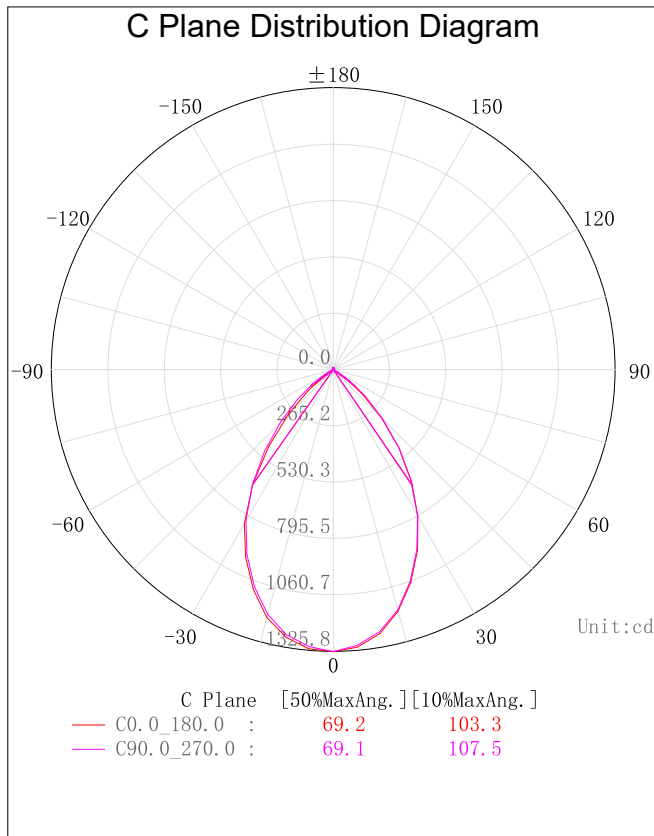
Description Information

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Date: 2019/07/04
Manufacture:	ShldAngle(°):	Test Machine:GON-2000
Test Lab:	Frequency(Hz):	Lamp CCT(K): Ra:
Lum. Size(W*L*H):0.190m*0.190m*0.090m	Lum. Area(m2):0.053	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): 1651.490	Luminaire Flux: 1651.492lm	Field Angle(10%Imax): 103.3
Rated Power(W):	Luminaire Efficiency: 100.00%	Down Lumens&Percent: 1641.309lm 99.38%
Rated Voltage(V):	Luminaire EER(lm/W): 82.990	Up Lumens&Percent: 10.183lm 0.62%
Tested Power(W): 19.900	Max. Cand. (cd): 1325.816	S/MH: C0_a180=0.990 C90_270=0.981
Lamps' Inside: 1	Max Cand@Ang. (°): C=0.0 γ=0.0	CIE Type: Semi-Direct
Tested Electric:U=237.0V, I=0.086A, PF=0.000	Beam Angle(50%Imax): 69.2	ErP Φ use(90°): 1444.117lm
Lamp Size(W*L*H):0.190m*0.190m*0.090m	Left=-34.9 Right=34.3	IRF: 178.461%

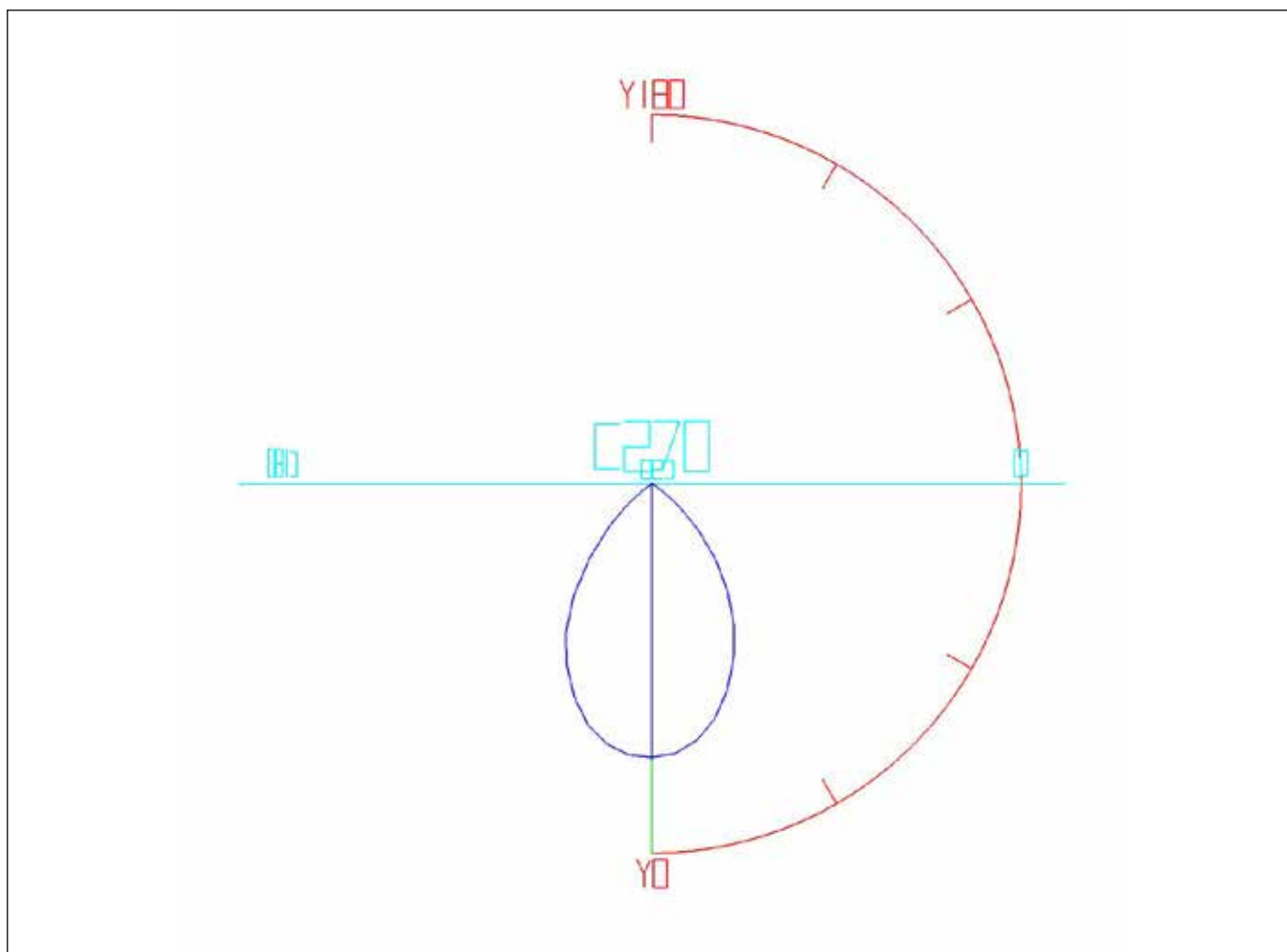
Lighting Distribution Diagram



3D Light Intensity Distribution Modal

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
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Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04

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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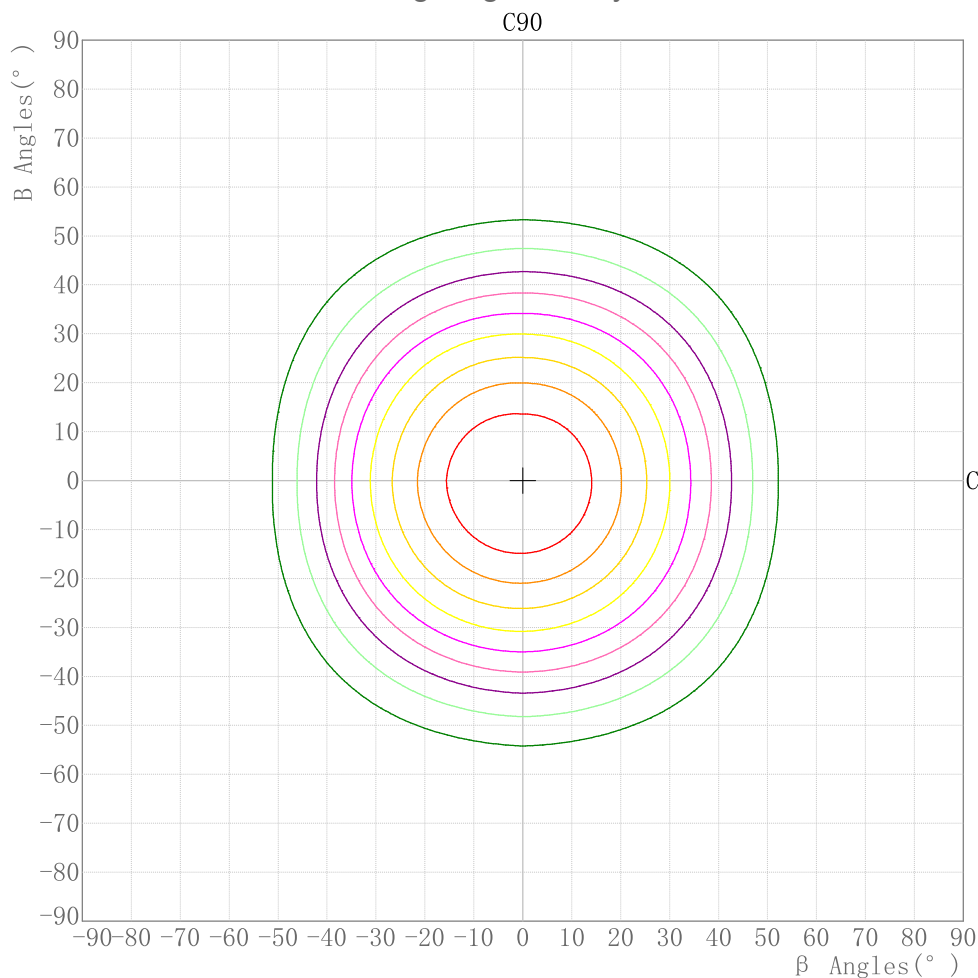
Zonal Flux Tabulation

Zone (y)	Zone Flux (lm)	Sums Flux (lm)	Zone%Lamp	Sums%Lamp
0.0-5.0	31.50	31.50	1.91	1.91
5.0-10.0	92.07	123.58	5.58	7.48
10.0-15.0	145.37	268.95	8.80	16.29
15.0-20.0	186.54	455.49	11.30	27.58
20.0-25.0	212.67	668.16	12.88	40.46
25.0-30.0	223.05	891.21	13.51	53.96
30.0-35.0	215.32	1106.53	13.04	67.00
35.0-40.0	189.20	1295.73	11.46	78.46
40.0-45.0	149.55	1445.28	9.06	87.51
45.0-50.0	103.38	1548.65	6.26	93.77
50.0-55.0	59.63	1608.29	3.61	97.38
55.0-60.0	25.84	1634.13	1.56	98.95
60.0-65.0	6.62	1640.75	0.40	99.35
65.0-70.0	0.54	1641.29	0.03	99.38
70.0-75.0	0.02	1641.31	0.00	99.38
75.0-80.0	0.00	1641.31	0.00	99.38
80.0-85.0	0.00	1641.31	0.00	99.38
85.0-90.0	0.00	1641.31	0.00	99.38
90.0-95.0	0.00	1641.31	0.00	99.38
95.0-100.0	0.00	1641.31	0.00	99.38
100.0-105.0	0.00	1641.31	0.00	99.38
105.0-110.0	0.00	1641.31	0.00	99.38
110.0-115.0	0.00	1641.31	0.00	99.38
115.0-120.0	0.01	1641.32	0.00	99.38
120.0-125.0	0.17	1641.49	0.01	99.39
125.0-130.0	0.51	1642.00	0.03	99.43
130.0-135.0	0.83	1642.83	0.05	99.48
135.0-140.0	1.09	1643.92	0.07	99.54
140.0-145.0	1.24	1645.16	0.08	99.62
145.0-150.0	1.30	1646.45	0.08	99.70
150.0-155.0	1.28	1647.73	0.08	99.77
155.0-160.0	1.19	1648.92	0.07	99.84
160.0-165.0	1.04	1649.96	0.06	99.91
165.0-170.0	0.82	1650.78	0.05	99.96
170.0-175.0	0.53	1651.31	0.03	99.99
175.0-180.0	0.19	1651.49	0.01	100.00

Rectangle ISO Lighting Intensity Diagram

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
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Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04

ISO Lighting Intensity Curve



- Curves:**
unit:cd
[IMax] =1325.816
- [IMax*90%]=1193.234
 - [IMax*80%]=1060.653
 - [IMax*70%]=928.071
 - [IMax*60%]=795.490
 - [IMax*50%]=662.908
 - [IMax*40%]=530.326
 - [IMax*30%]=397.745
 - [IMax*20%]=265.163
 - [IMax*10%]=132.582

Maximum Light Intensity(cd): 1325.82
Maximum Cand.@Angle: H=0.0°,V=0.0°

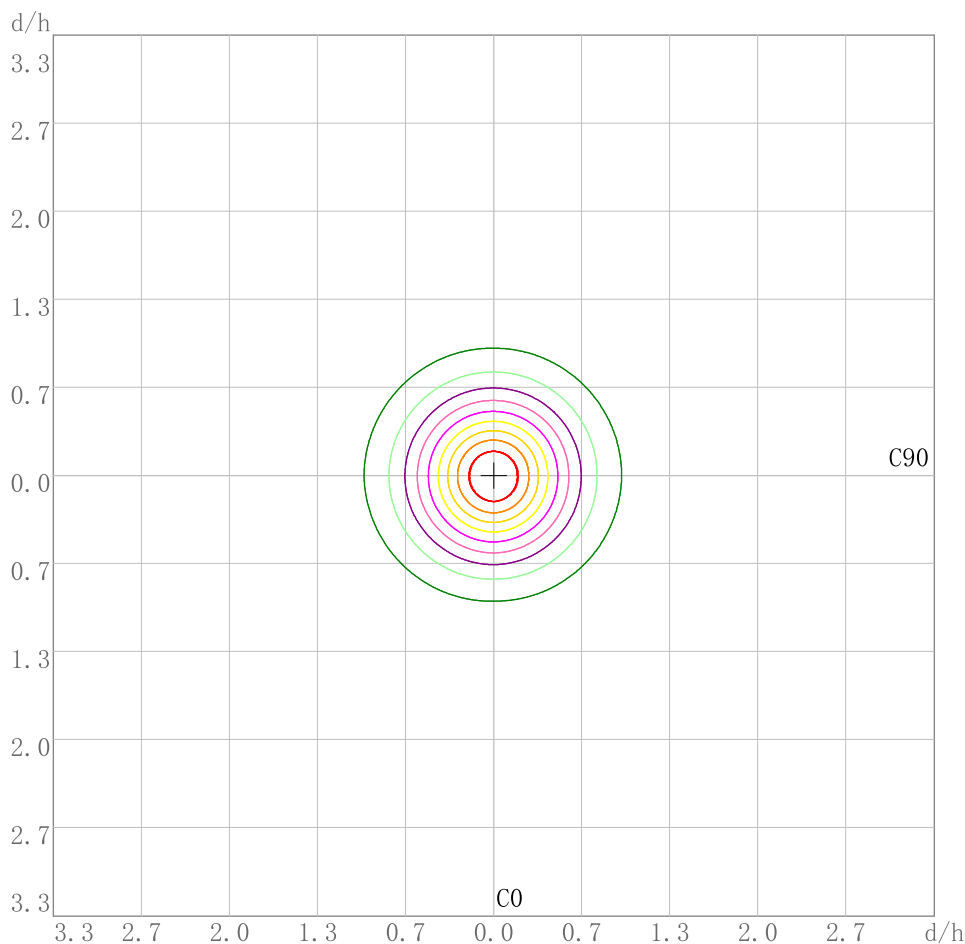
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Plane ISO-Illuminance Diagram

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04

Plane ISO-Illuminance Curve



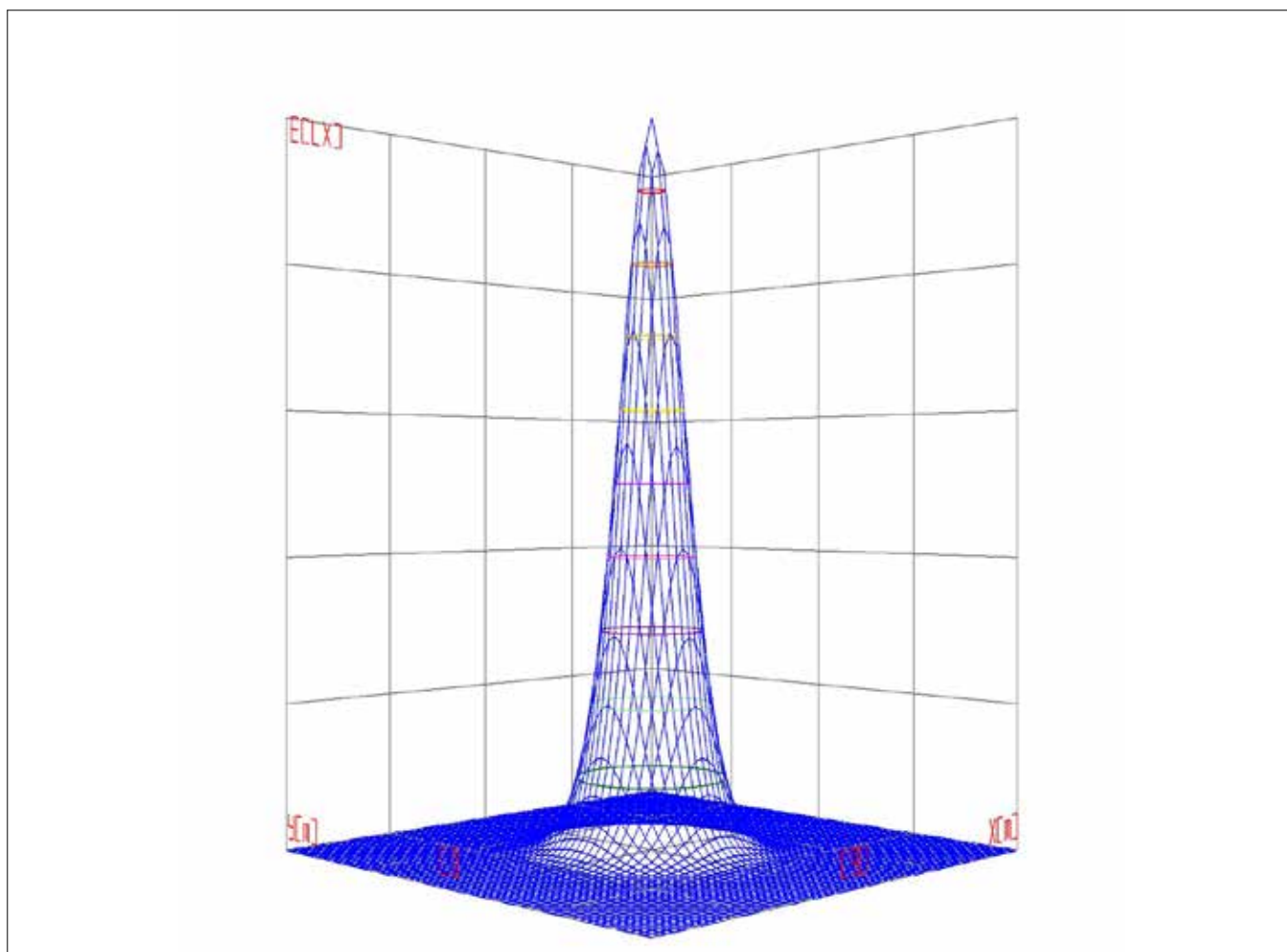
- Curves:
unit:lx
- [EMax] =147.313
 - [EMax*90%]=132.582
 - [EMax*80%]=117.850
 - [EMax*70%]=103.119
 - [EMax*60%]=88.388
 - [EMax*50%]=73.656
 - [EMax*40%]=58.925
 - [EMax*30%]=44.194
 - [EMax*20%]=29.463
 - [EMax*10%]=14.731

Working Plane Luminaire Mounting Height(m): 3.00
 Working Plane Maximum Illuminance(lx): 147.31
 Working Plane Maximum Illuminance Position(d/h):H0.0 V0.0

3D Plane ISO Illuminance Diagram

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04

3D Plane Illuminance Modal

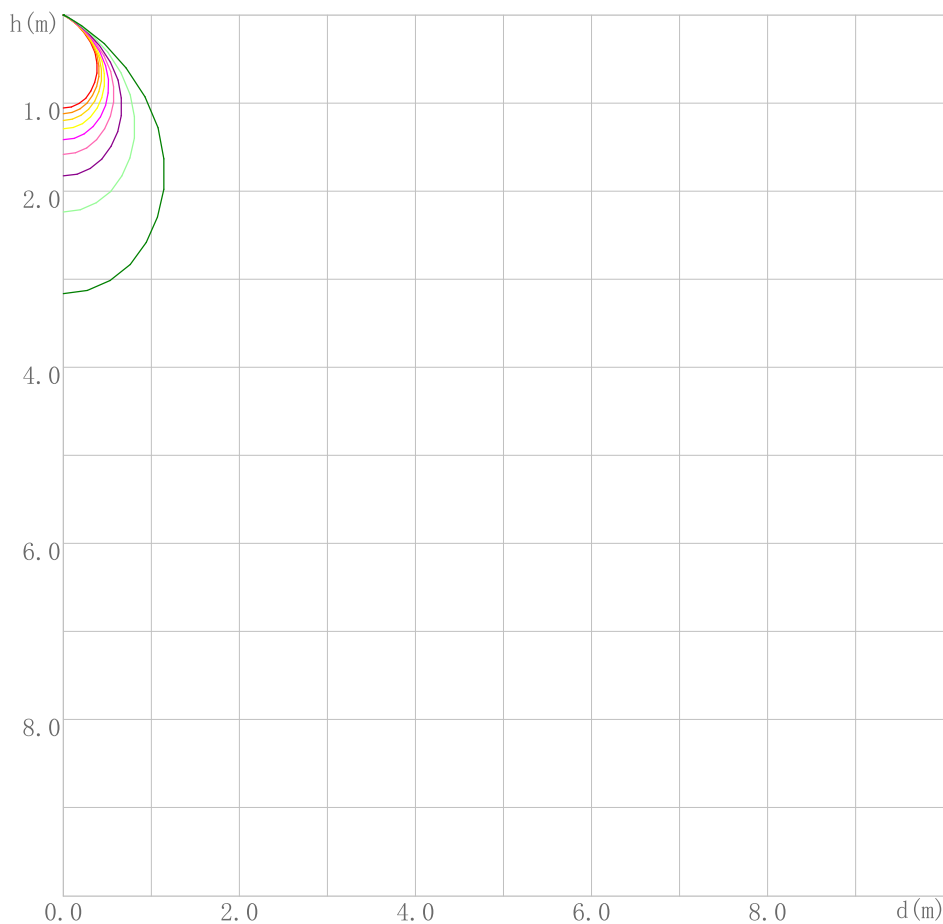


Curves: 3D Model — 90% — 80% — 70% — 60% — 50% — 40% — 30% — 20% — 10% —
View Angles(deg): 0 Height(m): 3.0 Distance(m): 10.0

Space ISO Illuminance Diagram

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04

Space ISO Illuminance Curve

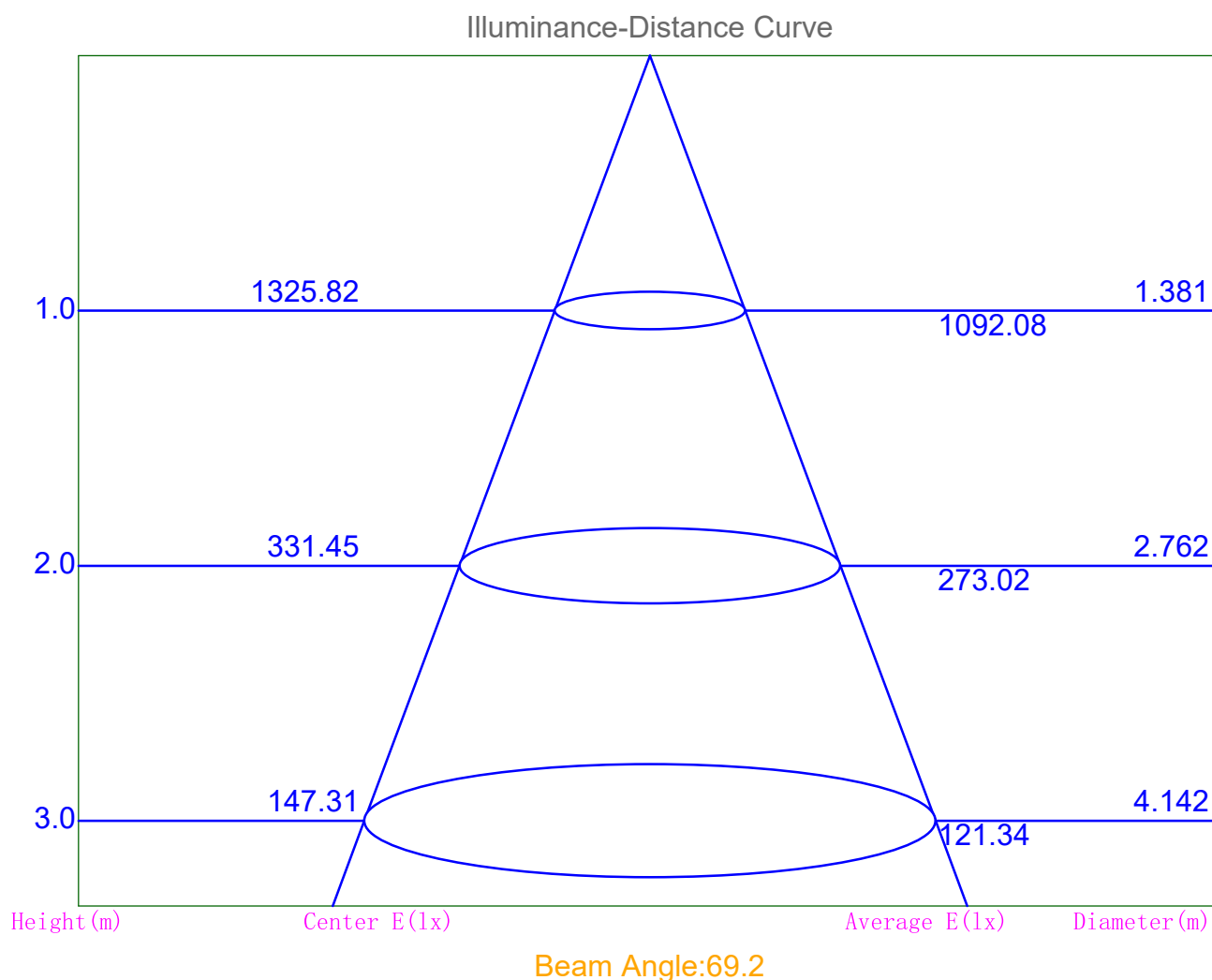


- Curves:
unit:lx
[EMax] =1325.816
- [EMax*90%]=1193.234
 - [EMax*80%]=1060.653
 - [EMax*70%]=928.071
 - [EMax*60%]=795.490
 - [EMax*50%]=662.908
 - [EMax*40%]=530.326
 - [EMax*30%]=397.745
 - [EMax*20%]=265.163
 - [EMax*10%]=132.582

Space Plane Maximum Illuminance and @Angle:1325.82,0.0deg
Plane Maximum Lighting Intensity and @Angle:1325.816cd,0deg

Illuminance-Distance Diagram

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04



Indoor Luminance Limiting Curves

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04

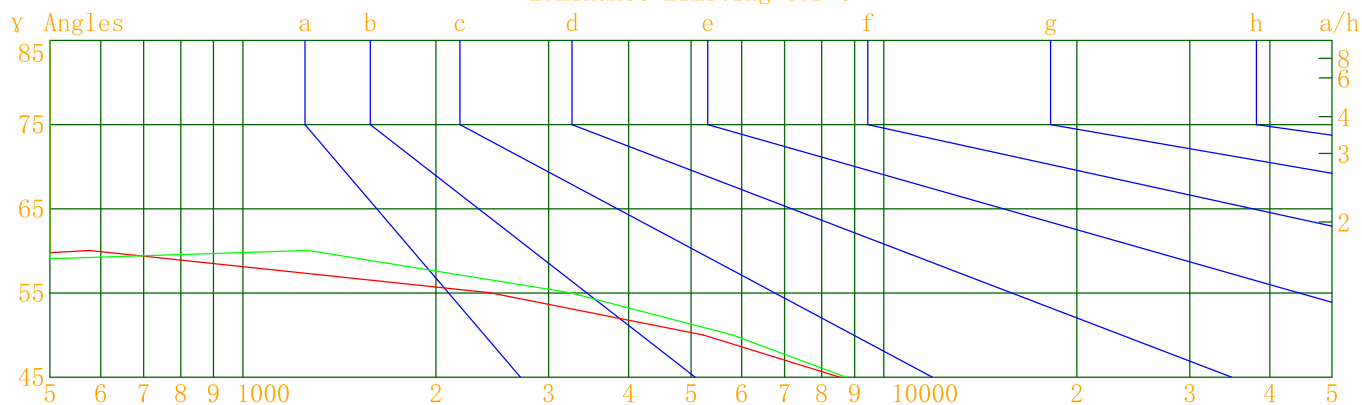
Glare Grade Table

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	8540	5224	2426	576	52	16	0	0	0
C90	8735	5805	3241	1264	14	0	0	0	0

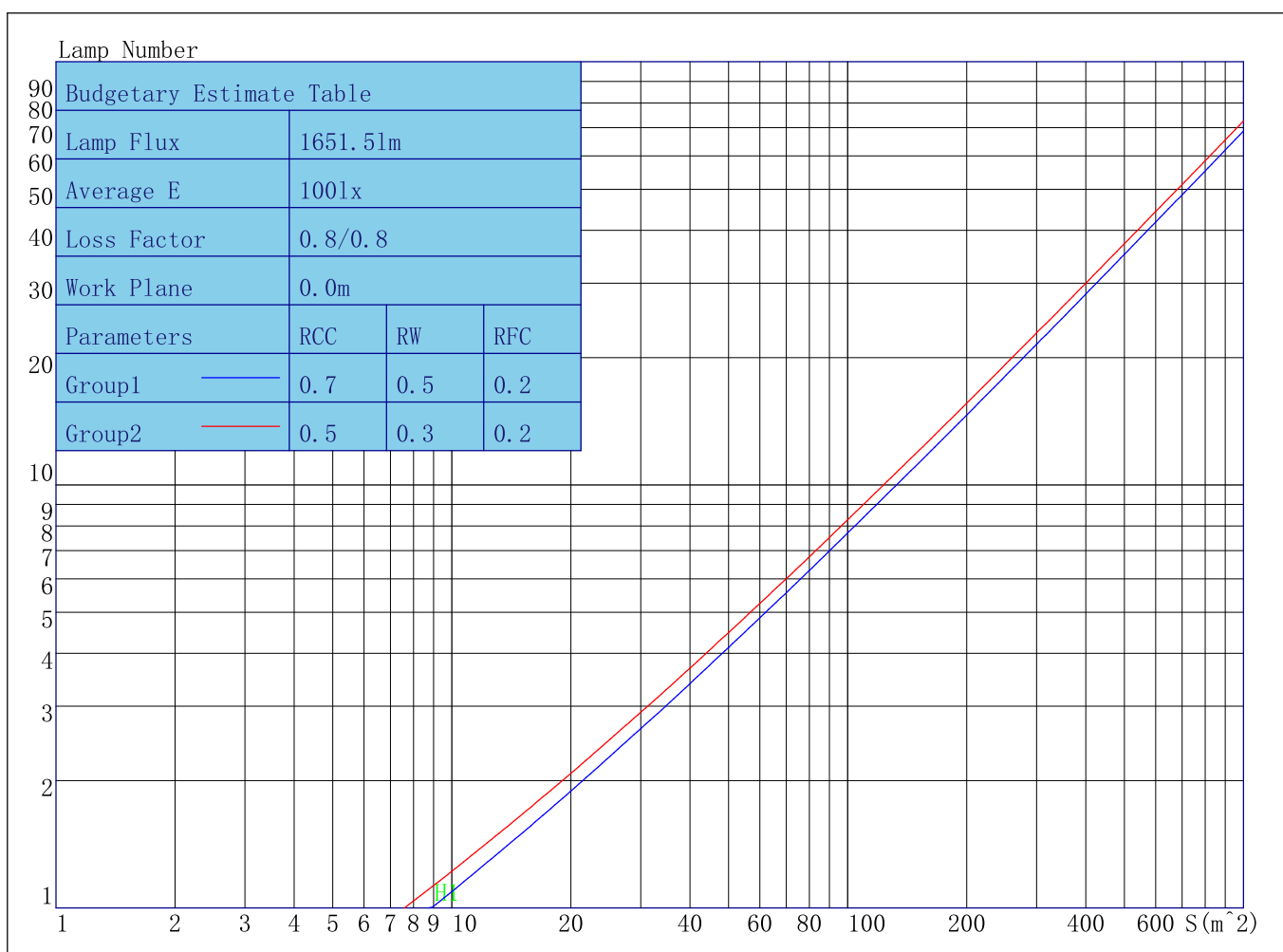
Luminance Limiting Curve



Luminous Size: Length(m)=0.190 Width(m)=0.190 Height(m)=0.090 Area(m²)=0.053200
 Luminous Type: Without Luminous Side
 Luminous Curves: C0-C180 Color: — C90-C270 Color: —

Indoor Budgetary Estimate Table

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
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Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04



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: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
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Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04

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	111	111	111	106	106	106	101	101	101	99
1	113	110	107	104	110	107	105	103	103	101	99	99	98	96	96	95	93	92
2	106	101	96	92	104	99	95	91	95	92	89	92	90	87	89	87	85	83
3	100	92	87	82	98	91	86	82	88	84	80	86	82	79	83	80	78	76
4	94	85	79	74	92	84	78	74	82	77	73	79	75	72	77	74	71	69
5	88	79	72	67	86	78	71	67	76	70	66	74	69	65	72	68	65	63
6	83	73	66	61	81	72	65	61	70	64	60	69	64	60	67	63	59	58
7	78	67	61	56	76	67	60	56	65	60	55	64	59	55	63	58	55	53
8	73	63	56	51	72	62	56	51	61	55	51	60	55	51	59	54	50	49
9	69	59	52	47	68	58	52	47	57	51	47	56	51	47	55	50	47	45
10	66	55	48	44	65	54	48	44	53	48	44	53	47	44	52	47	43	42

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Unified Glare Rating Table

Lum. Name: LGDL20W4K-WH	Lum. Catalog: LED DOWNLIGHT	Test ID:
Lamp Name: 4000K	Lamp Catalog: SMD2835	Test Lab:
Manufacture:	Test Machine:GON-2000	Test Date: 2019/07/04

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	21.5	23.5	22.3	24.2	24.8	21.8	23.8	22.6	24.5	25.1
Y=3H	21.2	23.2	21.9	23.8	24.4	21.5	23.5	22.2	24.1	24.7
Y=4H	21.4	23.1	22.2	23.8	24.4	21.7	23.4	22.5	24.1	24.7
Y=6H	21.2	23.0	22.0	23.6	24.2	21.5	23.3	22.3	23.9	24.5
Y=8H	21.1	22.9	21.9	23.5	24.2	21.4	23.2	22.2	23.8	24.4
Y=12H	21.1	22.8	21.8	23.5	24.1	21.4	23.1	22.1	23.7	24.4
X=4H Y=2H	21.4	23.1	22.2	23.8	24.4	21.7	23.4	22.5	24.1	24.7
Y=3H	21.0	22.8	21.8	23.4	24.0	21.3	23.1	22.1	23.7	24.3
Y=4H	19.2	20.1	20.1	21.0	21.8	19.4	20.4	20.4	21.3	22.1
Y=6H	19.0	19.9	20.0	20.8	21.6	19.3	20.2	20.3	21.1	21.9
Y=8H	18.9	19.9	19.9	20.7	21.6	19.2	20.1	20.2	21.0	21.9
Y=12H	17.9	18.7	19.0	19.7	20.6	18.2	19.0	19.3	20.0	20.9
X=8H Y=4H	18.9	19.9	19.9	20.7	21.6	19.2	20.1	20.2	21.0	21.9
Y=6H	17.8	18.6	18.9	19.6	20.5	18.1	18.9	19.2	19.9	20.8
Y=8H	17.3	17.9	18.4	18.9	19.9	17.6	18.2	18.7	19.2	20.2
Y=12H	17.2	17.8	18.3	18.9	19.8	17.5	18.1	18.6	19.2	20.1
X=12H Y=4H	17.9	18.7	19.0	19.7	20.6	18.2	19.0	19.3	20.0	20.9
Y=6H	17.3	17.9	18.4	18.9	19.9	17.6	18.2	18.7	19.2	20.2
Y=8H	17.2	17.8	18.3	18.9	19.8	17.5	18.1	18.6	19.2	20.1
Variations with the objver position at spacings										
S=1.0H	4.5/-13.3					4.6/-13.6				
S=1.5H	-9.3/-112.4					-9.6/-112.7				
S=2.0H	-9.3/-113.6					-9.6/-113.9				

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Candela Tabulation

V/H	C0.0	C90.0	C180.0	C270.0
Y 0.0	1325.82	1325.82	1325.82	1325.82
Y 5.0	1311.16	1301.06	1318.64	1307.09
Y 10.0	1260.88	1251.90	1278.15	1266.35
Y 15.0	1177.75	1170.30	1206.50	1190.98
Y 20.0	1064.90	1059.31	1099.15	1084.92
Y 25.0	936.87	932.22	974.66	958.71
Y 30.0	796.51	793.62	836.66	820.93
Y 35.0	641.47	636.58	660.59	662.45
Y 40.0	483.59	478.16	471.52	501.59
Y 45.0	321.26	328.60	296.29	349.74
Y 50.0	178.65	198.53	154.73	218.63
Y 55.0	74.03	98.89	57.07	116.51
Y 60.0	15.32	33.63	6.22	45.50
Y 65.0	1.16	0.31	0.00	6.79
Y 70.0	0.29	0.00	0.00	0.00
Y 75.0	0.00	0.00	0.00	0.00
Y 80.0	0.00	0.00	0.00	0.00
Y 85.0	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00
Y 110.0	0.00	0.00	0.00	0.00
Y 115.0	0.00	0.00	0.00	0.00
Y 120.0	0.00	0.00	0.00	0.14
Y 125.0	0.89	0.52	0.55	0.88
Y 130.0	1.77	1.34	1.55	1.78
Y 135.0	2.70	2.32	2.49	2.53
Y 140.0	3.60	3.13	3.32	3.36
Y 145.0	4.25	3.89	4.15	4.02
Y 150.0	4.94	4.59	4.76	4.68
Y 155.0	5.50	5.18	5.47	5.30
Y 160.0	6.06	5.88	6.09	5.86
Y 165.0	6.70	6.46	6.73	6.57
Y 170.0	7.15	7.10	7.33	7.10
Y 175.0	7.62	7.57	7.78	7.62
Y 180.0	7.89	7.89	7.89	7.89