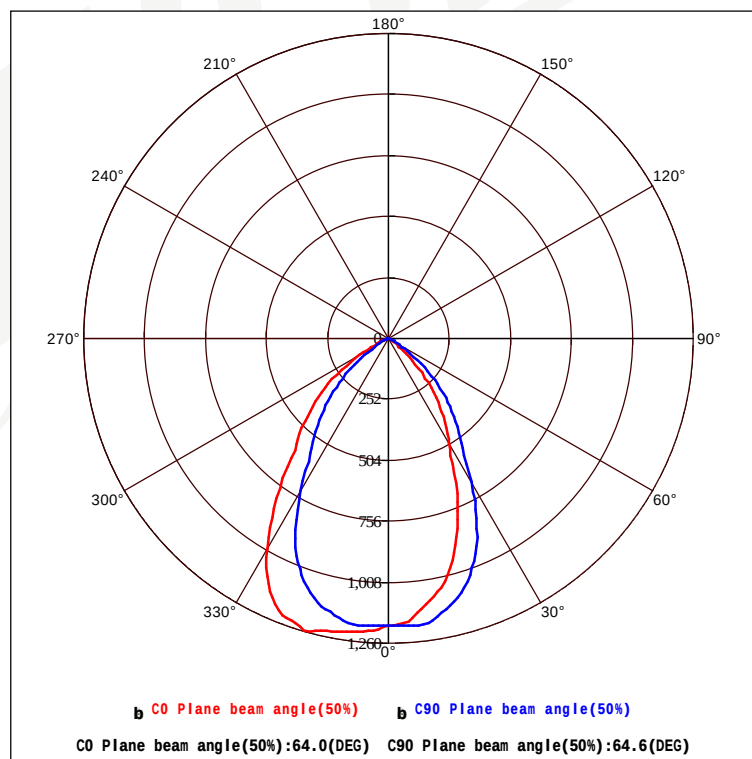


Goniophotometer Test Report

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm						
Lamp Name: LED DOWN LIGHT			Lamp Type:		Weight(kg):	
Lamp ID: LPDL-20GT01-Y			Lamp Spec: LPDL-20GT01-Y		Shape Size:	
Manufactory: LIPER			Sur(m^2):		Protect Angle(Deg):	
Light Source Data			Photometric Data			
Model	LPDL-20GT01-Y		Peak Value(cd)	1260.1	Efficiency(lm/w)	80.3
Nominal P(w)		20.0	Position	180.0,15.0	UP(C0-C180)	0.0
Rated Volt(v)		1.0	Total Flux(lm)	1556.995	Down(C0-C180)	50.7
Rated Flux(lm)		1.0	Up Flux Rate(%)	0.0	UP(C180-C360)	0.0
Illuminant QTY		1	Dw Flux Rate(%)	100.0	Down(C180-C360)	49.3

Planar Intensity Distribution Curve



Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

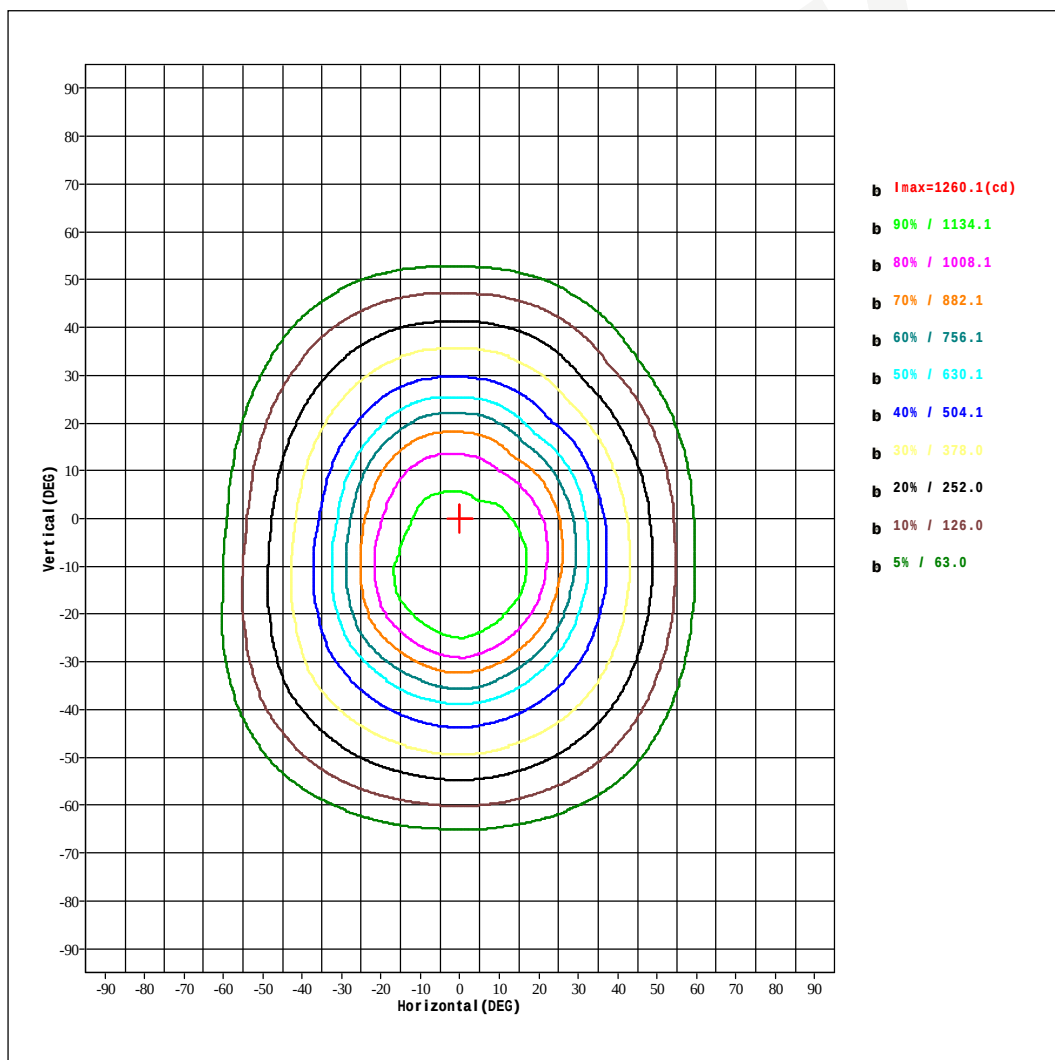
C interval(Deg): 45

Humidity(%): 60

Date: 2026-3-24

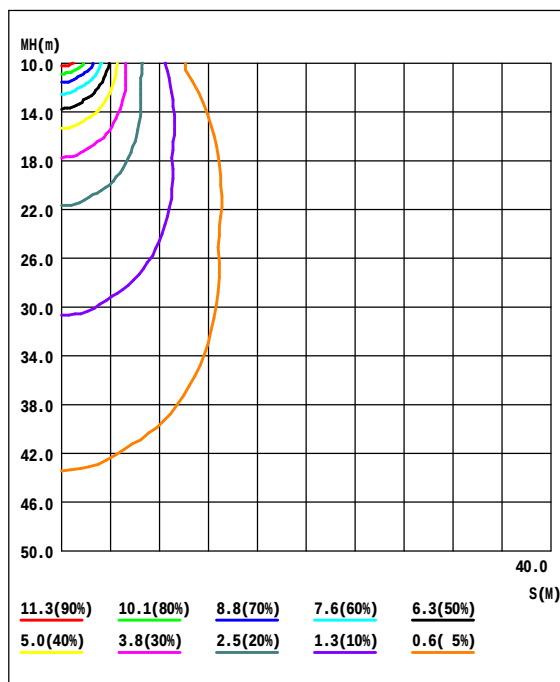
Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m^2):	Protect Angle(Deg):

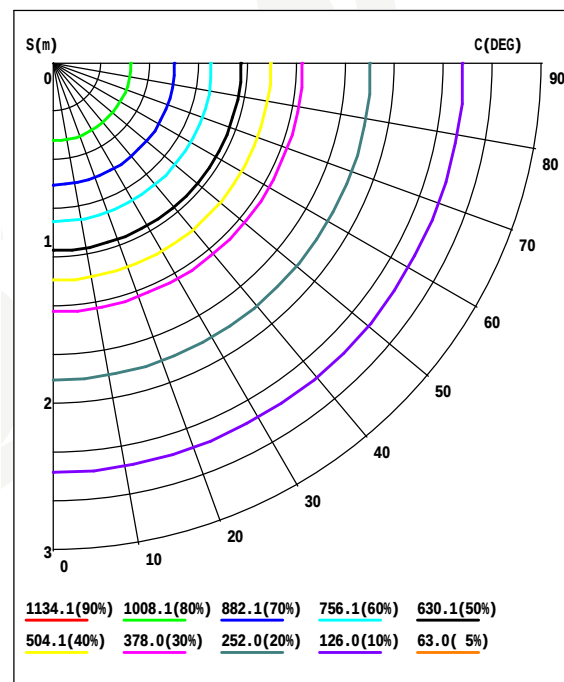
Planar IsoCandela Curve

Gama Angle Range:-90 - 90(Deg)
Gama interval(Deg): 1
Temperature(Deg): 30
Tester: zxg
Distance(m): 7.000
Test System: ZWL Goniophotometer System V3.0
C Angle Range:0 - 180(Deg)
C interval(Deg): 45
Humidity(%): 60
Date: 2026-3-24
Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m^2):	Protect Angle(Deg):

Spatial ISOLUX Curve



Planar ISOLUX Curve



Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2026-3-24

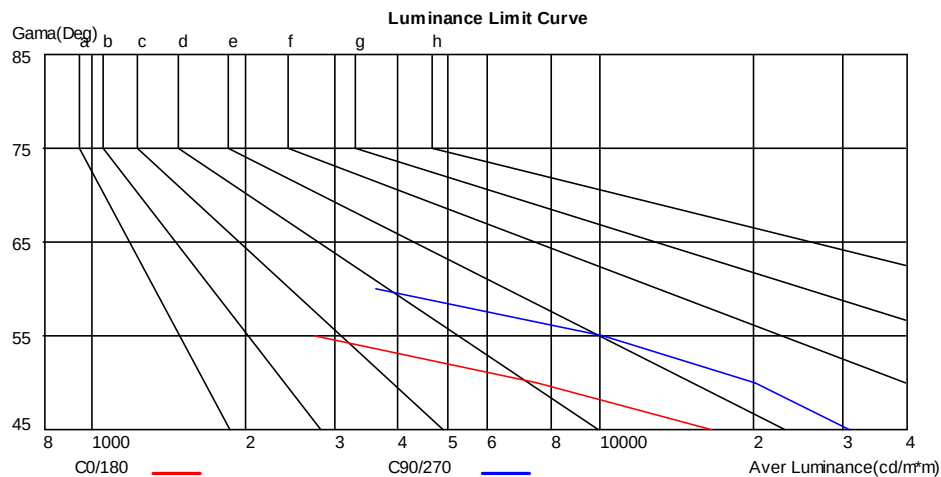
Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m^2):	Protect Angle(Deg):

Luminance Limit Curve

Aver Luminance(cd/m²m)									
Gm(Deg)	45	50	55	60	65	70	75	80	85
C0	16505.2	7528.9	2735.7	395.9	351.3	365.5	376.8	386.1	392.5
C90	30946.4	20249.7	10105.3	3622.1	589.5	362.1	374.4	385.1	396.4

Glare									
Glare	Class	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



Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

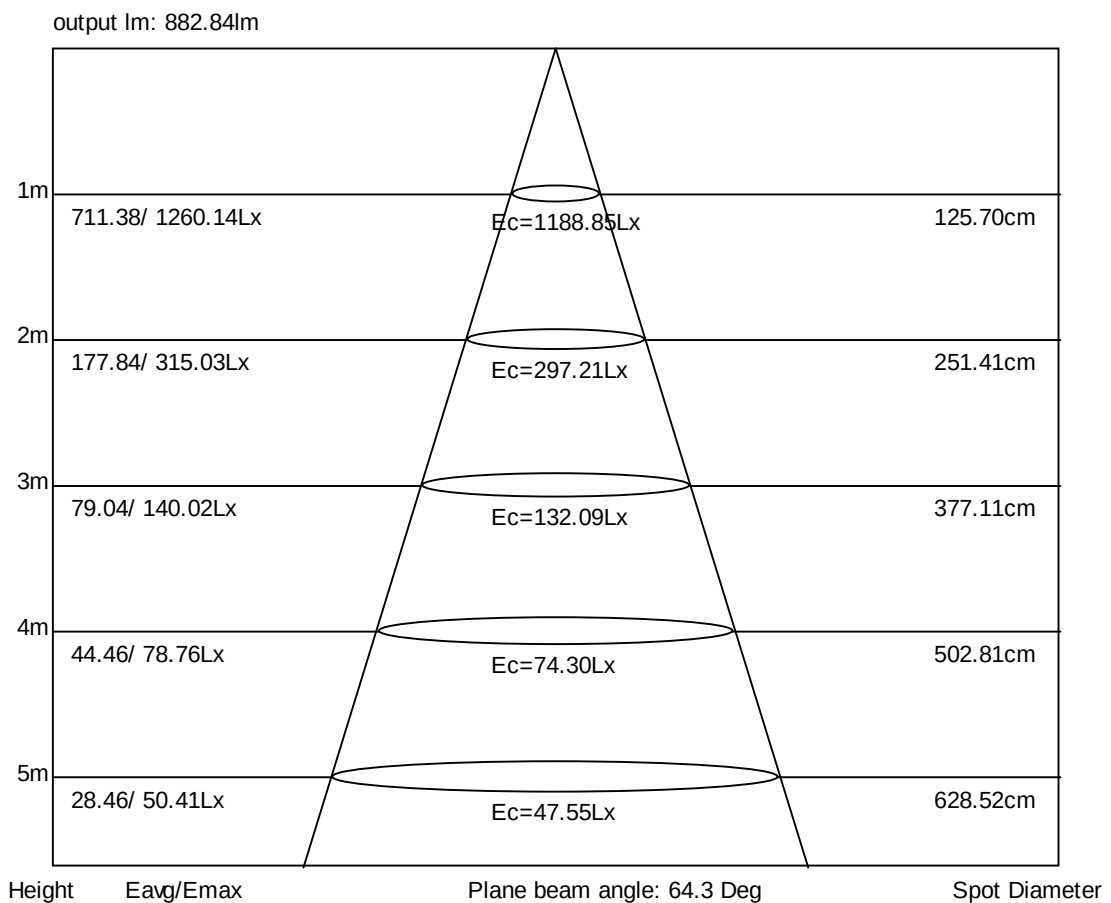
Humidity(%): 60

Date: 2026-3-24

Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m ²):	Protect Angle(Deg):

Average Illumination



Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zyg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

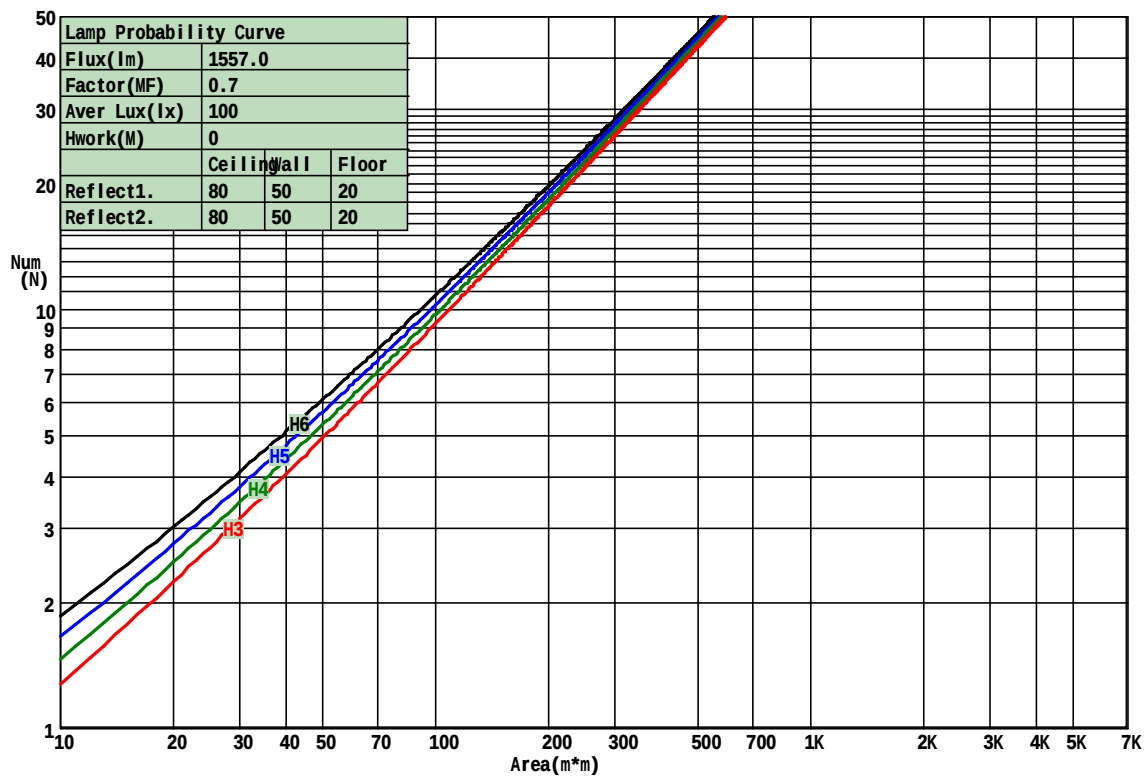
Humidity(%): 60

Date: 2026-3-24

Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m ²):	Protect Angle(Deg):

Lamp Probability Curve



Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2026-3-24

Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m^2):	Protect Angle(Deg):

UF Table

Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5
Wall	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3
Floor	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.60	50	34	24	48	33	24	45	32	23
0.80	53	35	24	50	34	23	46	32	22
1.00	55	37	24	53	35	23	48	33	22
1.25	58	38	24	55	37	23	49	33	22
1.50	60	40	24	56	38	23	50	34	22
2.00	63	42	26	59	40	24	52	36	22
2.50	65	44	26	60	41	25	53	36	22
3.00	66	45	27	62	42	26	54	37	23
4.00	68	47	28	64	44	27	55	38	24
5.00	70	49	29	65	45	28	56	39	24

CoEfficients Utilization

Ceiling(%)		0			0			0			0			0	
Wall(%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor (%)		0			0			0			0			0	
0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02
1	1.09	1.06	1.04	1.07	1.05	1.02	1.03	1.01	0.99	0.99	0.98	0.96	0.96	0.94	0.93
2	1	0.95	0.91	0.98	0.94	0.9	0.95	0.91	0.88	0.92	0.89	0.86	0.89	0.87	0.85
3	0.92	0.86	0.81	0.9	0.85	0.8	0.87	0.83	0.79	0.85	0.81	0.78	0.83	0.79	0.77
4	0.84	0.78	0.73	0.83	0.77	0.72	0.81	0.75	0.71	0.79	0.74	0.7	0.77	0.73	0.7
5	0.77	0.71	0.66	0.76	0.7	0.65	0.75	0.69	0.65	0.73	0.68	0.64	0.71	0.67	0.63
6	0.72	0.65	0.6	0.71	0.64	0.59	0.69	0.63	0.59	0.68	0.62	0.59	0.66	0.62	0.58
7	0.66	0.59	0.54	0.66	0.59	0.54	0.64	0.58	0.54	0.63	0.58	0.54	0.62	0.57	0.53
8	0.62	0.55	0.5	0.61	0.55	0.5	0.6	0.54	0.5	0.59	0.53	0.49	0.58	0.53	0.49
9	0.58	0.51	0.46	0.57	0.51	0.46	0.56	0.5	0.46	0.55	0.5	0.46	0.54	0.49	0.46
10	0.54	0.47	0.43	0.53	0.47	0.43	0.52	0.47	0.43	0.52	0.46	0.43	0.51	0.46	0.42

Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2026-3-24

Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m ²):	Protect Angle(Deg):

Wall Exitance CoEfficients

Ceiling(%)		0			0			0			0			0	
Wall(%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor (%)		0			0			0			0			0	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.21	0.12	0.04	0.2	0.11	0.04	0.19	0.11	0.03	0.17	0.1	0.03	0.16	0.09	0.03
2	0.2	0.11	0.03	0.19	0.11	0.03	0.18	0.1	0.03	0.17	0.1	0.03	0.16	0.09	0.03
3	0.19	0.1	0.03	0.19	0.1	0.03	0.18	0.1	0.03	0.17	0.09	0.03	0.16	0.09	0.03
4	0.18	0.09	0.03	0.18	0.09	0.03	0.17	0.09	0.03	0.16	0.09	0.03	0.16	0.08	0.03
5	0.17	0.09	0.03	0.17	0.09	0.03	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02
6	0.17	0.08	0.02	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02	0.14	0.08	0.02
7	0.16	0.08	0.02	0.15	0.08	0.02	0.15	0.07	0.02	0.14	0.07	0.02	0.14	0.07	0.02
8	0.15	0.07	0.02	0.15	0.07	0.02	0.14	0.07	0.02	0.14	0.07	0.02	0.13	0.07	0.02
9	0.14	0.07	0.02	0.14	0.07	0.02	0.14	0.07	0.02	0.13	0.07	0.02	0.13	0.06	0.02
10	0.14	0.07	0.02	0.13	0.06	0.02	0.13	0.06	0.02	0.13	0.06	0.02	0.12	0.06	0.02

Ceiling Cavity Exitance CoEfficients

Ceiling(%)		0			0			0			0			0	
Wall(%)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Floor (%)		0			0			0			0			0	
0	0.19	0.19	0.19	0.16	0.16	0.16	0.11	0.11	0.11	0.06	0.06	0.06	0.02	0.02	0.02
1	0.17	0.16	0.14	0.15	0.13	0.12	0.1	0.09	0.08	0.06	0.05	0.05	0.02	0.02	0.02
2	0.16	0.13	0.11	0.14	0.11	0.09	0.09	0.08	0.07	0.05	0.05	0.04	0.02	0.01	0.01
3	0.15	0.11	0.09	0.13	0.1	0.07	0.09	0.07	0.05	0.05	0.04	0.03	0.02	0.01	0.01
4	0.14	0.1	0.07	0.12	0.09	0.06	0.08	0.06	0.04	0.05	0.04	0.02	0.02	0.01	0.01
5	0.13	0.09	0.06	0.11	0.08	0.05	0.08	0.05	0.03	0.05	0.03	0.02	0.01	0.01	0.01
6	0.13	0.08	0.05	0.11	0.07	0.04	0.07	0.05	0.03	0.04	0.03	0.02	0.01	0.01	0.01
7	0.12	0.07	0.04	0.1	0.06	0.03	0.07	0.04	0.02	0.04	0.03	0.01	0.01	0.01	0
8	0.11	0.07	0.03	0.1	0.06	0.03	0.07	0.04	0.02	0.04	0.02	0.01	0.01	0.01	0
9	0.11	0.06	0.03	0.09	0.05	0.03	0.06	0.04	0.02	0.04	0.02	0.01	0.01	0.01	0
10	0.1	0.06	0.03	0.09	0.05	0.02	0.06	0.03	0.02	0.04	0.02	0.01	0.01	0.01	0

Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2026-3-24

Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m ²):	Protect Angle(Deg):

Ring-shaped Flux Data Table

Gm\C(Deg)	0	45	90	135	180	225	270	315	Range	Ring	T(lm)
5	1152	1178	1193	1199	1218	1212	1194	1143	0-5	28.4	28.4
10	1076	1119	1162	1210	1233	1220	1170	1087	5-10	83.9	112
15	969	1034	1103	1209	1260	1225	1126	986	10-15	135	247
20	822	902	998	1188	1229	1180	1034	840	15-20	176	424
25	642	731	849	1066	1143	1046	897	662	20-25	200	624
30	491	543	669	903	983	875	710	505	25-30	200	824
35	385	440	516	722	783	673	540	398	30-35	186	1010
40	280	338	409	549	589	535	431	293	35-40	163	1172
45	165	230	309	445	476	419	328	181	40-45	138	1311
50	75.3	125	202	340	367	307	217	87.3	45-50	107	1418
55	27.4	53.1	101	224	248	182	110	32.1	50-55	72.5	1491
60	3.96	18	36.2	114	128	74.6	38.5	4.32	55-60	39.3	1530
65	3.51	3.9	5.89	37.8	46.7	21.3	8.01	2.27	60-65	15.4	1545
70	3.66	3.93	3.62	7.84	9.65	2.03	2.53	2.44	65-70	4.66	1550
75	3.77	3.99	3.74	3.81	2.13	2.17	2.59	2.61	70-75	1.71	1552
80	3.86	4.04	3.85	3.85	2.23	2.33	2.7	2.79	75-80	1.69	1553
85	3.92	4.09	3.96	3.95	2.39	2.53	2.83	2.99	80-85	1.78	1555
90	3.97	4.11	4.04	3.99	2.53	2.66	2.98	3.15	85-90	1.85	1557
95									90-95		
100									95-100		
105									100-105		
110									105-110		
115									110-115		
120									115-120		
125									120-125		
130									125-130		
135									130-135		
140									135-140		
145									140-145		
150									145-150		
155									150-155		
160									155-160		
165									160-165		
170									165-170		
175									170-175		
180									175-180		

Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2026-3-24

Remark:

Measured Para U: 234.6V I: 144.0mA P: 19.40W PF: 0.572 Test LM: 1556.99lm		
Lamp Name: LED DOWN LIGHT	Lamp Type:	Weight(kg):
Lamp ID: LPDL-20GT01-Y	Lamp Spec: LPDL-20GT01-Y	Shape Size:
Manufactory: LIPER	Sur(m ²):	Protect Angle(Deg):

CD Table

Gm\C(Deg)	0	20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340
5.0	1152	1163	1175	1183	1189	1194	1197	1201	1210	1218	1216	1213	1206	1198	1183	1160	1144	1148
10.0	1076	1095	1115	1133	1153	1173	1194	1213	1223	1233	1228	1222	1204	1181	1152	1114	1086	1081
15.0	969	998	1027	1057	1088	1126	1174	1215	1238	1260	1245	1229	1193	1147	1095	1032	984	977
20.0	822	857	893	933	977	1040	1126	1193	1211	1229	1207	1185	1132	1066	991	903	838	830
25.0	642	681	722	770	823	896	994	1074	1109	1143	1100	1056	997	930	846	739	659	651
30.0	491	514	538	585	641	720	826	911	948	983	936	887	821	746	665	572	503	497
35.0	385	409	434	465	499	561	654	729	756	783	735	685	629	569	509	445	397	391
40.0	280	305	331	361	393	440	503	553	571	589	566	541	501	454	401	338	292	286
45.0	165	193	223	256	292	339	400	448	462	476	451	425	389	348	296	229	180	172
50.0	75.3	96.9	119	150	185	233	295	343	355	367	341	314	277	236	188	130	86	80.5
55.0	27.4	38.6	50.3	68.8	90.6	128	184	227	237	248	219	189	158	126	92.9	57.6	31.6	29.4
60.0	3.96	10.1	16.5	24	32.2	53.2	88.4	115	122	128	105	80.5	62.8	46.4	31	15.5	4.28	4.12
65.0	3.51	3.68	3.86	4.55	5.46	12.9	27.3	38.8	42.8	46.7	35.6	24.1	16.9	10.9	6.75	4.15	2.41	2.97
70.0	3.66	3.78	3.9	3.83	3.69	4.54	6.46	8.04	8.86	9.65	6.32	2.87	2.2	2.42	2.51	2.47	2.57	3.12
75.0	3.77	3.86	3.96	3.91	3.8	3.76	3.79	3.62	2.86	2.13	2.15	2.17	2.31	2.5	2.59	2.6	2.74	3.26
80.0	3.86	3.94	4.02	3.98	3.89	3.85	3.85	3.67	2.94	2.23	2.28	2.32	2.45	2.61	2.72	2.76	2.91	3.39
85.0	3.92	4	4.07	4.05	3.99	3.96	3.95	3.78	3.07	2.39	2.45	2.52	2.63	2.77	2.87	2.94	3.1	3.52
90.0	3.97	4.03	4.1	4.09	4.06	4.03	4.01	3.83	3.17	2.53	2.58	2.64	2.76	2.91	3.02	3.1	3.24	3.61
95.0																		
100.0																		
105.0																		
110.0																		
115.0																		
120.0																		
125.0																		
130.0																		
135.0																		
140.0																		
145.0																		
150.0																		
155.0																		
160.0																		
165.0																		
170.0																		
175.0																		
180.0																		

Gama Angle Range:-90 - 90(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.000

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2026-3-24

Remark: