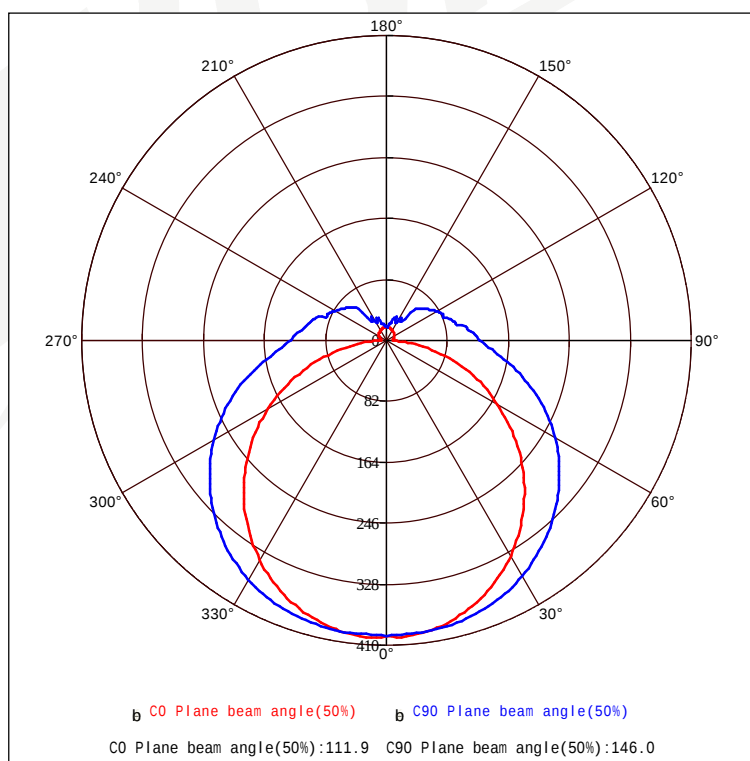


Goniophotometer Test Report

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm						
Lamp Name: LED TUBE			Lamp Type:		Weight(kg):	
Lamp ID: LPTL10DS04-2			Lamp Spec:		Shape Size:	
Manufactory: LIPER			Sur(m^2):		Protect Angle(Deg):	
Light Source Data			Photometric Data			
Model	LPTL10DS04-2		Peak Value(cd)	400.7	Efficiency(lm/w)	85.7
Nominal P(w)		1.0	Position	0.0,0.0	UP(C0-C180)	8.1
Rated Volt(v)		220.0	Total Flux(lm)	1569.17	Down(C0-C180)	42.6
Rated Flux(lm)		1.0	Up Flux Rate(%)	15.9	UP(C180-C360)	7.9
Illuminant QTY		1	Dw Flux Rate(%)	84.1	Down(C180-C360)	41.5

Planar Intensity Distribution Curve



Gama Angle Range:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

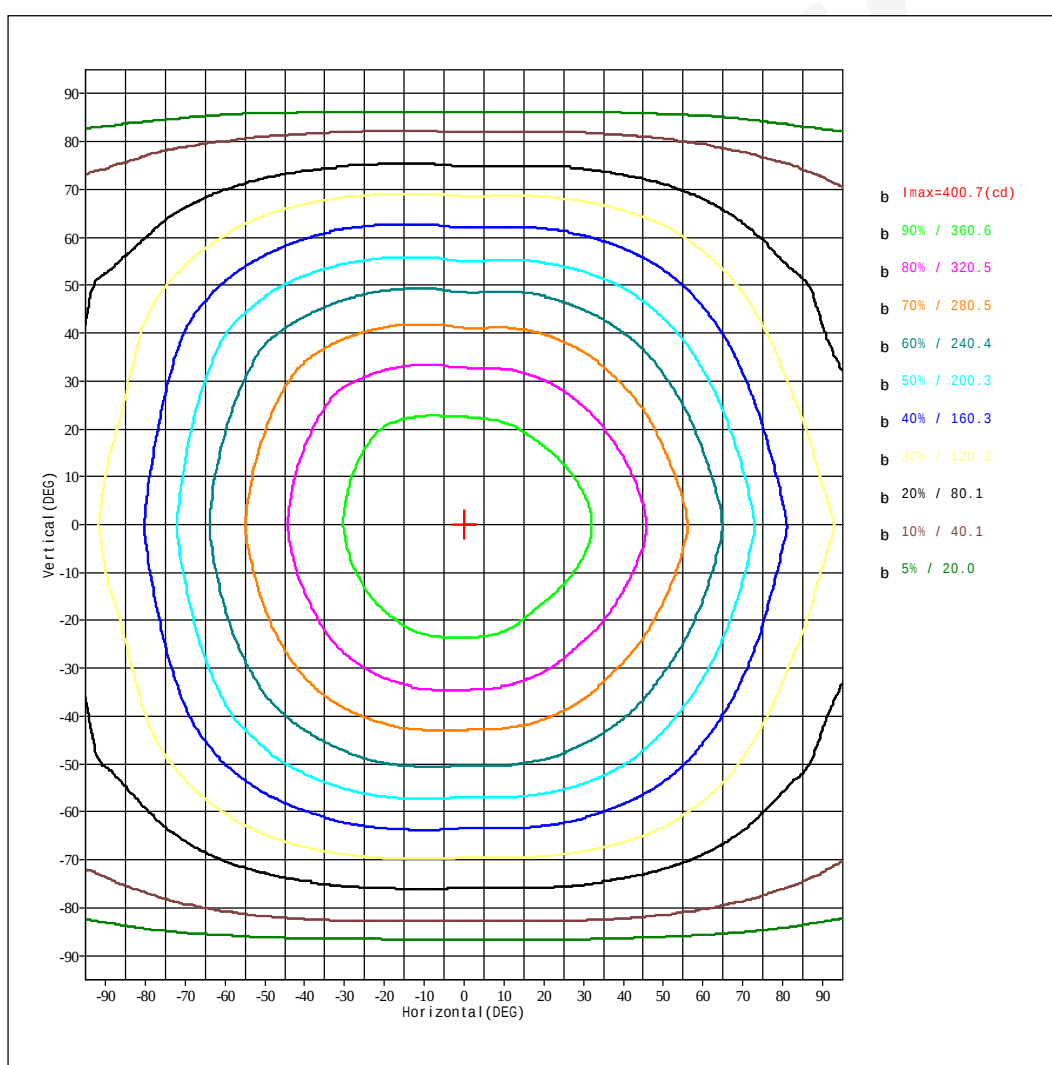
Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	Shape Size:
Manufactory: LIPER	Sur(m^2):	Protect Angle(Deg):

Planar IsoCandela Curve



Gama Angle Range:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

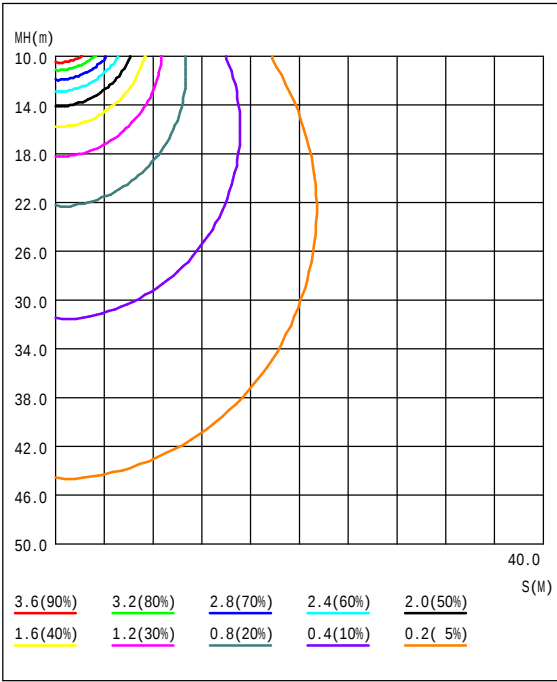
Humidity(%): 60

Date: 2023-10-30

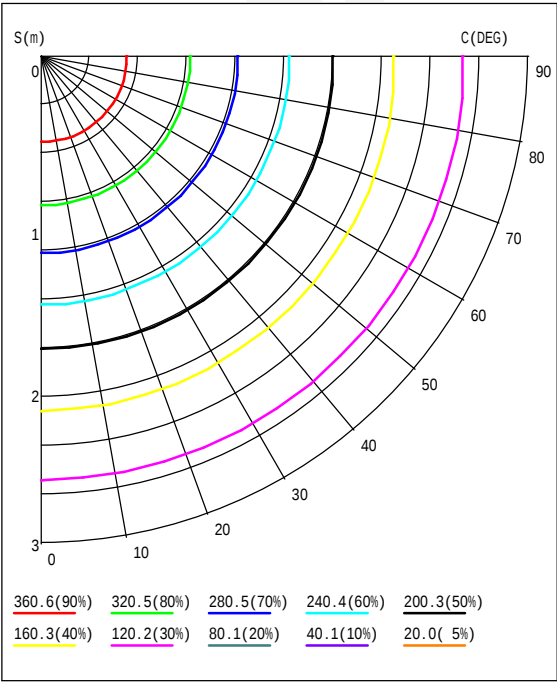
Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	Shape Size:
Manufactory: LIPER	Sur(m^2):	Protect Angle(Deg):

Spacial ISOLUX Curve



Planar ISOLUX Curve



Gama Angle Range:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2023-10-30

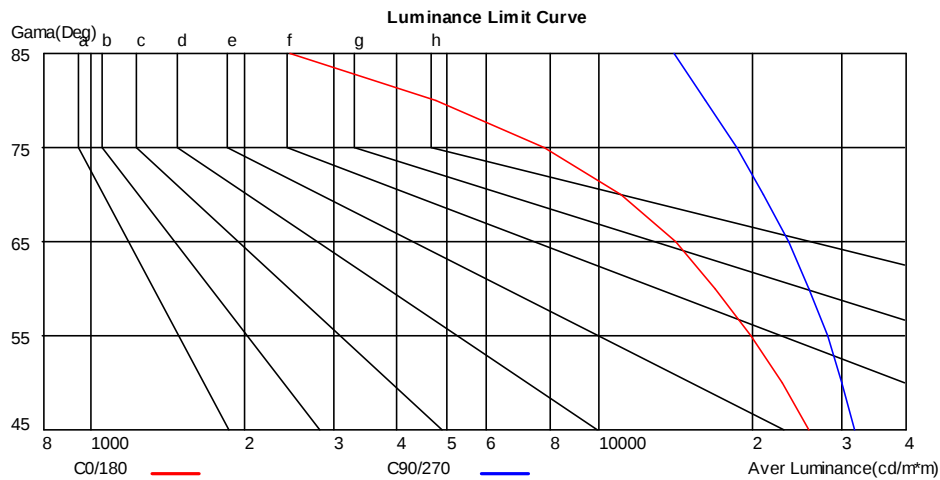
Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	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	25841.2	23030.5	19915.5	16887.9	14186.2	11035.7	7795.1	4763.6	2469.3
C90	31968.8	30108.4	28140.5	25984.7	23671.8	21118.6	18681.9	16249.1	14023.3

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:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

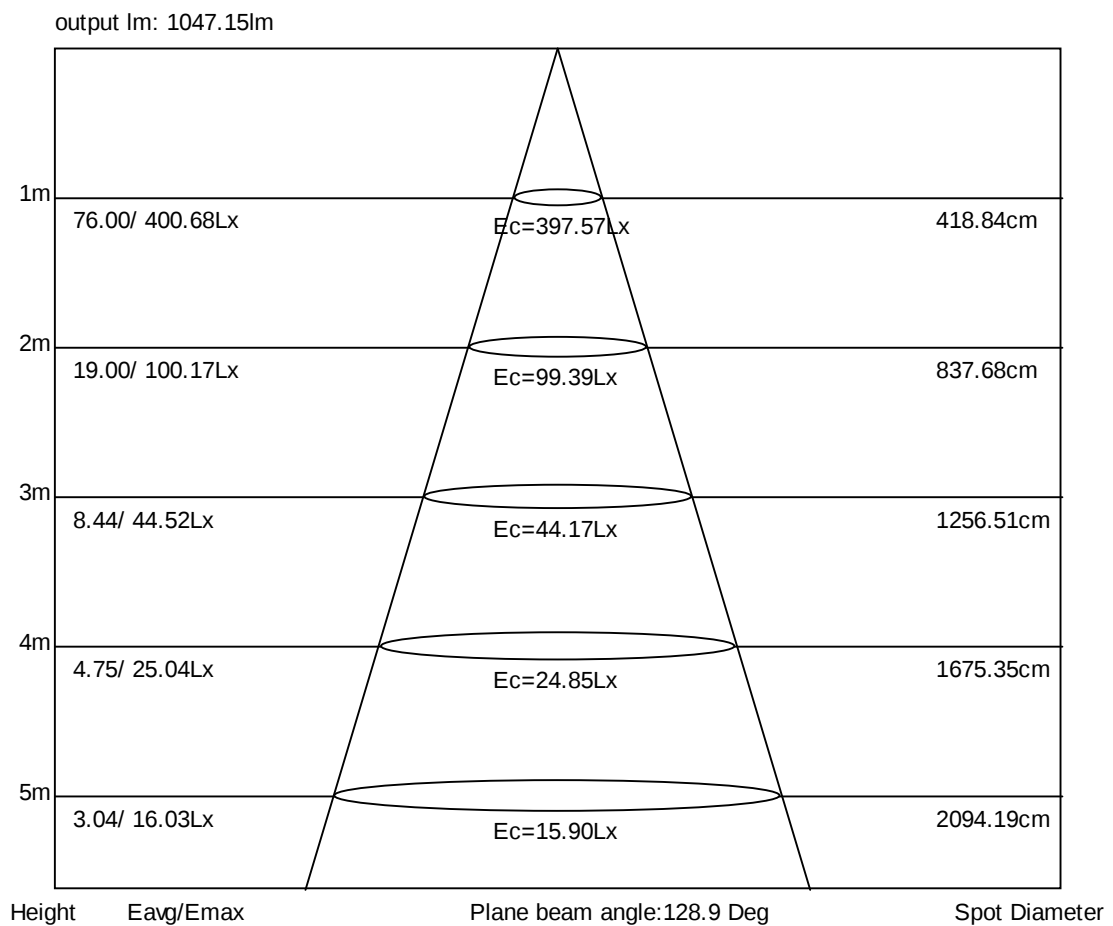
Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	Shape Size:
Manufactory: LIPER	Sur(m ²):	Protect Angle(Deg):

Average Illumination



Gama Angle Range: -180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range: 0 - 180(Deg)

C interval(Deg): 45

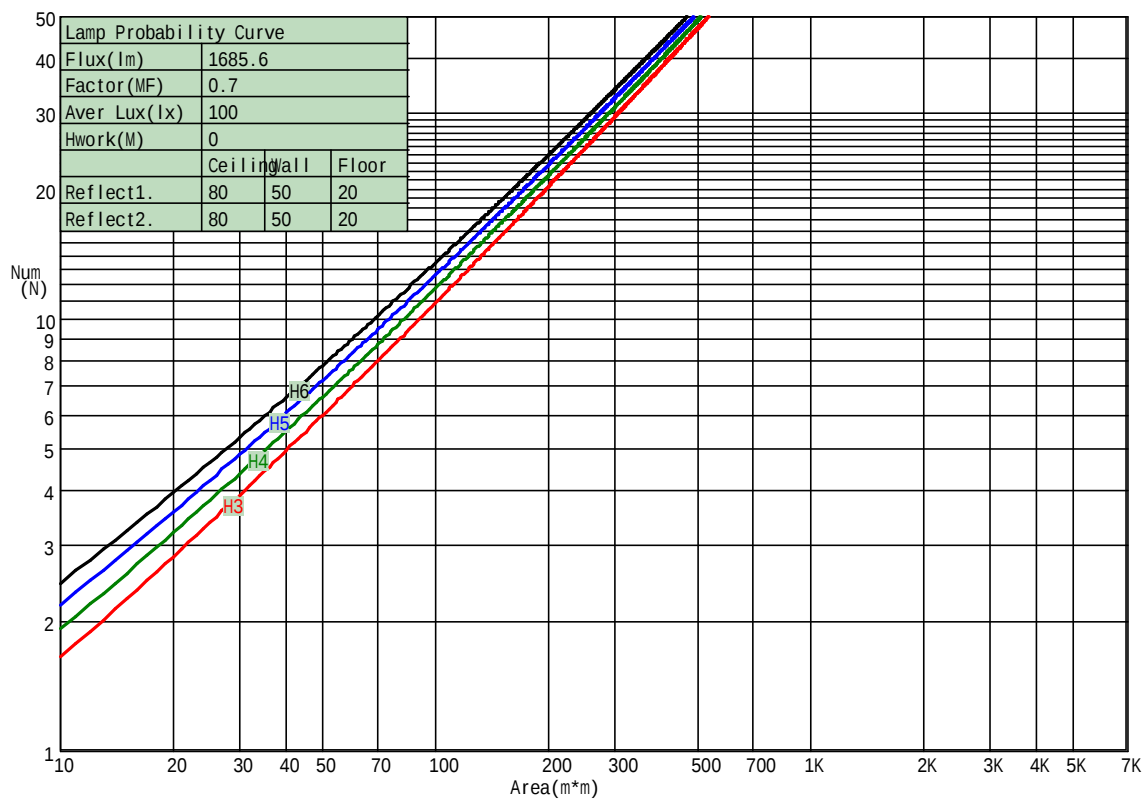
Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	Shape Size:
Manufactory: LIPER	Sur(m^2):	Protect Angle(Deg):

Lamp Probability Curve



Gama Angle Range:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	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	38	21	11	36	20	10	31	17	8
0.80	46	28	16	43	26	15	37	23	13
1.00	52	33	20	48	31	19	41	27	16
1.25	57	38	24	52	35	23	44	30	19
1.50	60	41	27	55	38	25	47	33	21
2.00	64	45	30	59	42	28	50	36	24
2.50	67	48	33	62	44	30	51	37	25
3.00	69	50	34	63	46	31	53	38	26
4.00	71	52	36	65	48	33	54	39	27
5.00	72	53	37	66	49	33	54	40	27

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	1.15	1.15	1.15	1.11	1.11	1.11	1.02	1.02	1.02	0.95	0.95	0.95	0.87	0.87	0.87
1	0.97	0.92	0.87	0.93	0.89	0.85	0.86	0.82	0.79	0.79	0.76	0.74	0.73	0.71	0.69
2	0.83	0.76	0.69	0.8	0.73	0.67	0.74	0.68	0.63	0.68	0.64	0.6	0.63	0.59	0.56
3	0.72	0.64	0.57	0.7	0.62	0.55	0.64	0.58	0.52	0.59	0.54	0.49	0.55	0.5	0.46
4	0.64	0.54	0.47	0.61	0.53	0.46	0.57	0.49	0.44	0.52	0.46	0.41	0.49	0.43	0.39
5	0.57	0.47	0.4	0.55	0.46	0.39	0.51	0.43	0.37	0.47	0.41	0.36	0.43	0.38	0.34
6	0.51	0.41	0.35	0.49	0.4	0.34	0.45	0.38	0.32	0.42	0.36	0.31	0.39	0.34	0.29
7	0.46	0.37	0.3	0.44	0.36	0.3	0.41	0.34	0.28	0.38	0.32	0.27	0.36	0.3	0.26
8	0.42	0.33	0.27	0.4	0.32	0.26	0.38	0.3	0.25	0.35	0.29	0.24	0.33	0.27	0.23
9	0.38	0.3	0.24	0.37	0.29	0.24	0.34	0.28	0.23	0.32	0.26	0.22	0.3	0.25	0.21
10	0.35	0.27	0.22	0.34	0.26	0.21	0.32	0.25	0.2	0.3	0.24	0.2	0.28	0.23	0.19

Gama Angle Range:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	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	0.37	0.21	0.07	0.35	0.2	0.06	0.33	0.19	0.06	0.31	0.18	0.06	0.29	0.17	0.05
2	0.32	0.18	0.05	0.31	0.17	0.05	0.29	0.16	0.05	0.27	0.15	0.05	0.26	0.14	0.05
3	0.29	0.15	0.05	0.28	0.15	0.05	0.26	0.14	0.04	0.24	0.13	0.04	0.23	0.13	0.04
4	0.26	0.14	0.04	0.25	0.13	0.04	0.24	0.13	0.04	0.22	0.12	0.04	0.21	0.11	0.03
5	0.24	0.12	0.04	0.23	0.12	0.03	0.22	0.11	0.03	0.2	0.11	0.03	0.19	0.1	0.03
6	0.22	0.11	0.03	0.21	0.11	0.03	0.2	0.1	0.03	0.19	0.1	0.03	0.17	0.09	0.03
7	0.2	0.1	0.03	0.2	0.1	0.03	0.18	0.09	0.03	0.17	0.09	0.03	0.16	0.08	0.02
8	0.19	0.09	0.03	0.18	0.09	0.03	0.17	0.09	0.02	0.16	0.08	0.02	0.15	0.08	0.02
9	0.18	0.09	0.02	0.17	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02	0.14	0.07	0.02
10	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.07	0.02	0.14	0.07	0.02	0.13	0.07	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	0.31	0.31	0.31	0.27	0.27	0.27	0.18	0.18	0.18	0.1	0.1	0.1	0.03	0.03	0.03
1	0.31	0.28	0.25	0.26	0.24	0.22	0.18	0.16	0.15	0.1	0.1	0.09	0.03	0.03	0.03
2	0.3	0.26	0.22	0.26	0.22	0.19	0.18	0.15	0.13	0.1	0.09	0.08	0.03	0.03	0.03
3	0.29	0.24	0.2	0.25	0.21	0.17	0.17	0.14	0.12	0.1	0.08	0.07	0.03	0.03	0.02
4	0.28	0.23	0.18	0.24	0.2	0.16	0.17	0.14	0.11	0.1	0.08	0.07	0.03	0.03	0.02
5	0.28	0.22	0.17	0.24	0.19	0.15	0.16	0.13	0.1	0.09	0.08	0.06	0.03	0.02	0.02
6	0.27	0.21	0.16	0.23	0.18	0.14	0.16	0.13	0.1	0.09	0.07	0.06	0.03	0.02	0.02
7	0.26	0.2	0.16	0.23	0.17	0.14	0.16	0.12	0.1	0.09	0.07	0.06	0.03	0.02	0.02
8	0.26	0.2	0.15	0.22	0.17	0.13	0.15	0.12	0.1	0.09	0.07	0.06	0.03	0.02	0.02
9	0.25	0.19	0.15	0.22	0.17	0.13	0.15	0.12	0.09	0.09	0.07	0.06	0.03	0.02	0.02
10	0.24	0.19	0.15	0.21	0.16	0.13	0.15	0.11	0.09	0.09	0.07	0.05	0.03	0.02	0.02

Gama Angle Range:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	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	398	398	396	395	399	396	396	394	0-5	9.49	9.49
10	392	395	394	392	394	391	396	391	5-10	28.2	37.7
15	382	390	390	386	385	384	393	384	10-15	46.2	84
20	368	383	384	378	373	374	387	375	15-20	63	147
25	351	372	375	366	357	362	380	362	20-25	78	225
30	332	359	364	353	339	347	370	348	25-30	90.8	316
35	310	344	351	337	318	329	358	331	30-35	101	417
40	285	326	337	319	294	310	343	311	35-40	108	525
45	258	306	320	299	268	289	327	290	40-45	113	638
50	230	285	301	278	241	266	308	267	45-50	115	753
55	199	262	281	255	212	242	288	243	50-55	113	866
60	169	238	260	231	181	215	265	216	55-60	109	974
65	142	213	237	206	149	189	242	190	60-65	102	1076
70	110	185	211	178	116	162	217	162	65-70	92.1	1168
75	78	158	187	152	83.8	135	190	136	70-75	80.4	1248
80	47.6	132	162	126	52.9	111	166	111	75-80	67.7	1316
85	24.7	108	140	103	26.6	92.6	143	91.9	80-85	55.2	1371
90	9.4	90.3	125	86.2	9.35	84	128	82.9	85-90	45.5	1417
95	9.06	81	116	76.8	7.52	55.9	120	53.4	90-95	39	1456
100	9.38	54.7	107	50	7.9	55.2	110	52.6	95-100	32.1	1488
105	9.83	50.5	94.8	46.6	8.53	47.9	103	46.5	100-105	28.2	1516
110	10.4	48.6	85.4	46.8	9.32	50	88.7	48.2	105-110	26.1	1542
115	10.9	50.3	82.8	48.6	10.1	48.6	84.7	46.5	110-115	24.4	1567
120	11.6	46.1	77.2	47	10.9	46.5	78.6	40.3	115-120	22.6	1589
125	12.2	40.4	70.8	45.2	11.8	44.3	72.8	33.9	120-125	20	1609
130	13.1	34.5	65.5	38.8	12.5	27.3	67.1	24.8	125-130	16.6	1626
135	13.7	25.5	59.6	27.6	13.4	31.9	61.3	23.9	130-135	13.4	1639
140	14.4	25.6	33.9	27.9	14.2	25.6	34	22.7	135-140	11.1	1650
145	15.2	23.3	33.2	25.6	14.9	30.1	34.2	23.8	140-145	8.08	1658
150	15.7	27.4	27	32.9	15.6	28.4	28.2	23.3	145-150	7.48	1666
155	16.5	26.5	32	30.1	16.2	26.6	32.1	22.4	150-155	6.21	1672
160	16.9	25.4	31.4	27.6	16.7	25.5	31.4	21.6	155-160	5.28	1677
165	17.4	24.3	24	25.4	17.2	22.5	23.3	20.4	160-165	3.85	1681
170	17.7	21.5	21.2	23	17.6	19.1	21.7	17.7	165-170	2.49	1684
175	18	18.8	17.8	19	17.9	17.9	19.7	17.5	170-175	1.37	1685
180	18.2	18.9	17.9	17.6	18	17.9	18.8	18.6	175-180	0.44	1686

Gama Angle Range:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zxcg

Distance(m): 7.070

Test System: ZWL Goniophotometer System V3.0

C Angle Range:0 - 180(Deg)

C interval(Deg): 45

Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 216.5V I: 147.9mA P: 18.31W PF: 0.572 Test LM: 1569.17lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04-2	Lamp Spec:	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	398	398	398	397	396	396	395	395	397	399	398	396	396	396	396	395	395	397
10.0	392	393	395	395	394	393	392	392	393	394	393	392	393	395	394	392	391	391
15.0	382	385	389	390	390	389	387	386	385	385	385	384	387	391	391	387	384	383
20.0	368	374	381	383	384	383	380	377	375	373	373	374	379	384	384	379	374	371
25.0	351	361	370	373	375	373	369	365	361	357	359	361	368	376	376	368	361	356
30.0	332	344	356	361	363	362	357	351	345	339	342	346	354	365	365	355	346	339
35.0	310	324	340	346	350	348	342	335	326	318	323	328	339	352	352	340	328	319
40.0	285	303	321	329	334	333	325	316	305	294	301	308	321	336	336	322	308	297
45.0	258	279	301	311	317	315	306	296	282	268	277	286	301	318	319	302	287	272
50.0	230	254	279	290	298	296	286	274	257	241	252	263	280	299	299	281	263	246
55.0	199	227	255	268	277	276	264	251	231	212	225	239	257	277	278	258	238	218
60.0	169	199	230	245	255	254	240	225	203	181	196	211	232	254	255	233	211	190
65.0	142	173	205	220	231	230	216	200	174	149	166	184	206	230	230	207	184	163
70.0	110	143	176	193	205	204	189	172	143	116	136	157	180	205	205	180	156	133
75.0	78	113	149	167	180	179	163	144	114	83.8	106	129	153	178	178	154	129	103
80.0	47.6	84.4	122	142	156	155	138	118	84.9	52.9	78.3	105	129	154	154	129	104	75.2
85.0	24.7	61	98.5	118	133	132	115	94.4	59.9	26.6	55.5	85.4	109	132	132	109	84.5	54.1
90.0	9.4	44.8	81.4	102	117	116	98.9	77.8	43	9.35	42	75.8	98.5	119	118	97.8	74.9	41.6
95.0	9.06	40.5	73.1	92.4	108	107	89.6	69.2	37.8	7.52	28.7	50.6	77	106	105	75.3	48.6	28.5
100.0	9.38	29.2	49.8	71.9	95.6	94.5	68.7	45.4	26.3	7.9	28.6	50.1	73.2	98.1	97.5	71.5	47.9	28.3
105.0	9.83	27.6	46.1	65	85.1	84.2	62.4	42.4	25.2	8.53	25.7	43.6	66	91	90.7	65.1	42.5	25.9
110.0	10.4	27.1	44.4	60.7	77.4	77	59.5	42.7	25.7	9.32	27.1	45.6	62.7	80.3	79.9	61.5	44.1	26.9
115.0	10.9	28.2	46	61	75.7	75.3	59.8	44.4	26.9	10.1	26.9	44.4	60.4	76.8	76.3	59	42.6	26.5
120.0	11.6	26.7	42.3	56.3	70.4	70.6	56.9	43.1	26.7	10.9	26.5	42.6	57.1	71.6	70.3	52.9	37.2	24.2
125.0	12.2	24.5	37.3	50.3	64.2	65.2	53.6	41.5	26.4	11.8	26	40.7	53.6	66.5	64.3	46.6	31.5	21.7
130.0	13.1	22.5	32.2	44.7	58.7	59.7	47.6	36	24	12.5	19	25.7	40.4	58.4	57.9	38.7	23.5	18.2
135.0	13.7	18.9	24.2	36.6	52.1	52.6	38.1	26	19.6	13.4	21.5	29.9	41.6	54.9	53.1	36.2	22.8	18.2
140.0	14.4	19.3	24.4	28.3	32.1	32.6	29.9	26.4	20.2	14.2	19.2	24.3	28.3	32.1	31.5	26.4	21.8	18
145.0	15.2	18.7	22.4	26.5	31	31.5	28.1	24.4	19.6	14.9	21.5	28.4	31.4	33.3	31.9	27.2	22.8	18.9
150.0	15.7	20.9	26.2	27.3	27.1	28.3	31	31	23.2	15.6	21.2	27	28.3	28.3	27.1	24.9	22.5	19
155.0	16.5	20.9	25.4	28.3	30.8	31.6	30.7	28.5	22.3	16.2	20.8	25.5	28.4	30.9	30	25.6	21.7	19
160.0	16.9	20.6	24.5	27.4	30.1	30.6	28.9	26.4	21.5	16.7	20.6	24.6	27.4	30.1	29.2	24.8	21.1	19
165.0	17.4	20.4	23.5	24.2	24	24.3	24.9	24.5	20.8	17.2	19.5	21.9	22.8	23.1	22.7	21.3	20	18.7
170.0	17.7	19.4	21.1	21.4	21.3	21.6	22.4	22.4	20	17.6	18.2	18.9	19.9	21.1	20.8	19	17.7	17.7
175.0	18	18.4	18.7	18.5	18	18.1	18.6	18.9	18.4	17.9	17.9	17.9	18.5	19.4	19.3	18.2	17.5	17.8
180.0	18.2	18.5	18.8	18.6	18.1	17.8	17.7	17.6	17.8	18	17.9	17.9	18.2	18.6	18.7	18.6	18.5	18.4

Gama Angle Range:-180 - 180(Deg)

C Angle Range:0 - 180(Deg)

Gama interval(Deg): 1

C interval(Deg): 45

Temperature(Deg): 30

Humidity(%): 60

Tester: zxcg

Date: 2023-10-30

Distance(m): 7.070

Remark:

Test System: ZWL Goniophotometer System V3.0