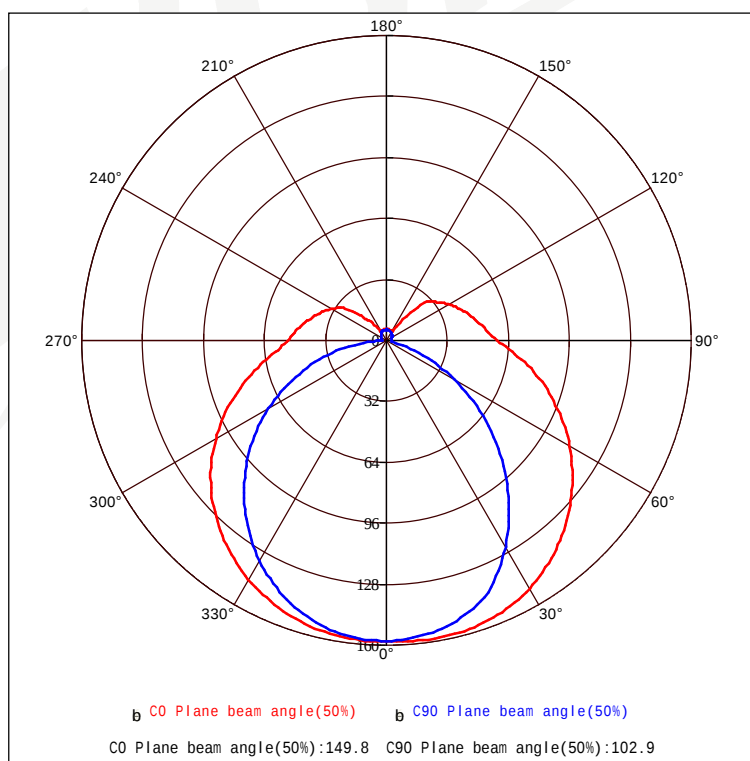


Goniophotometer Test Report

Measured Para U: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm						
Lamp Name: LED TUBE			Lamp Type:		Weight(kg):	
Lamp ID: LPTL10DS04			Lamp Spec:		Shape Size:	
Manufactory: LIPER			Sur(m^2):		Protect Angle(Deg):	
Light Source Data			Photometric Data			
Model	LPTL10DS04		Peak Value(cd)	158.6	Efficiency(lm/w)	85.8
Nominal P(w)		1.0	Position	0.0,6.0	UP(C0-C180)	8.8
Rated Volt(v)		220.0	Total Flux(lm)	695.84	Down(C0-C180)	41.5
Rated Flux(lm)		1.0	Up Flux Rate(%)	16.9	UP(C180-C360)	8.1
Illuminant QTY		1	Dw Flux Rate(%)	83.1	Down(C180-C360)	41.6

Planar Intensity Distribution Curve



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

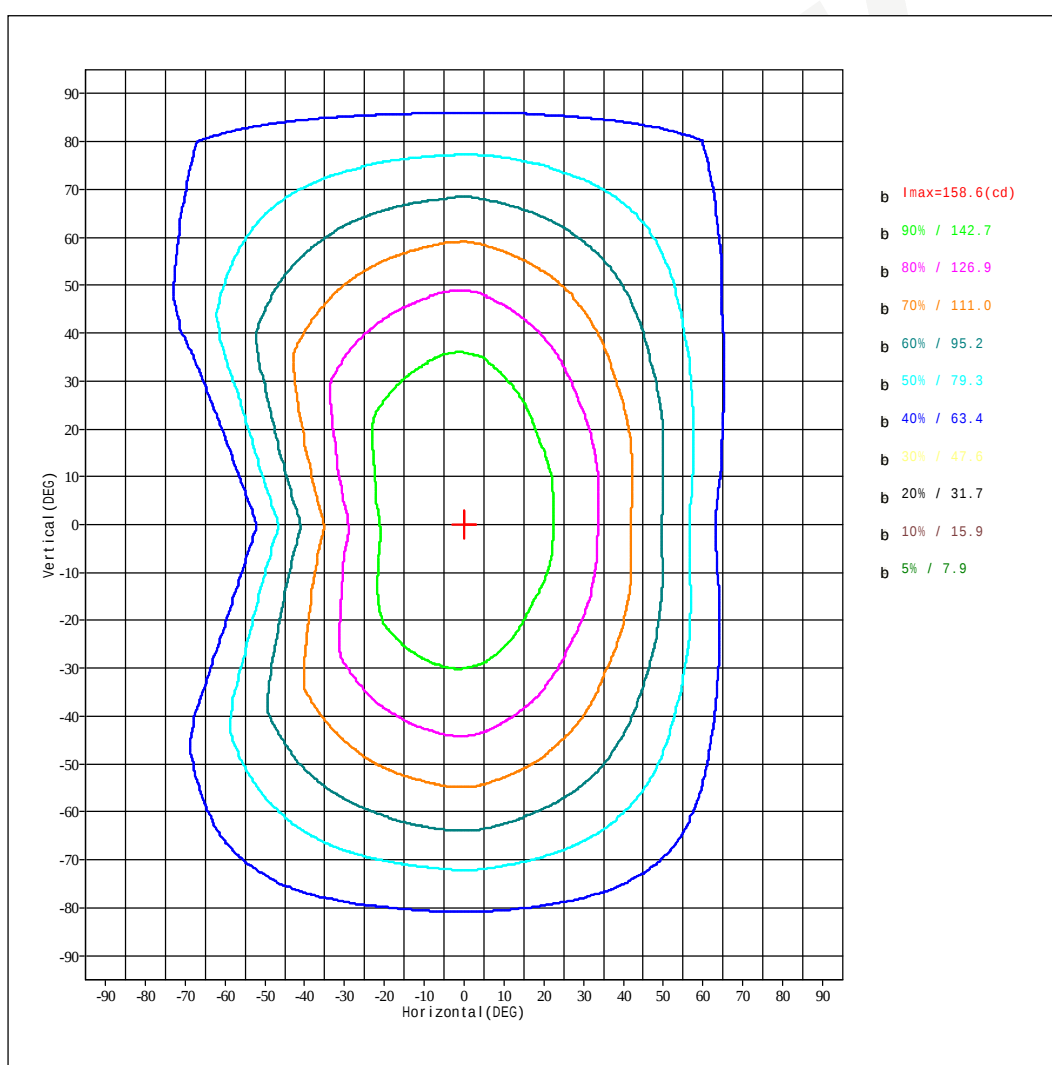
Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04	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

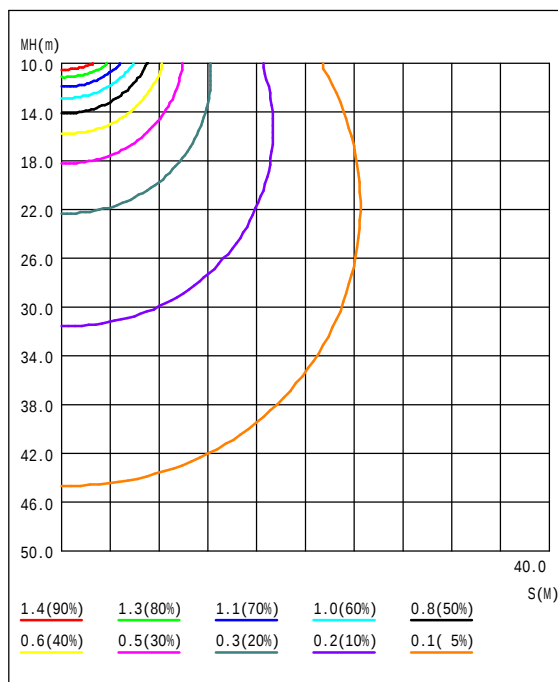
Humidity(%): 60

Date: 2023-10-30

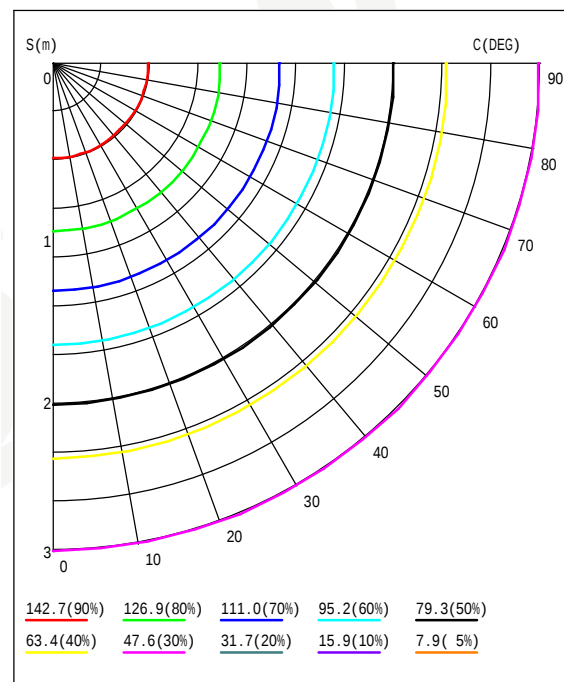
Remark:

Measured Para U: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04	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

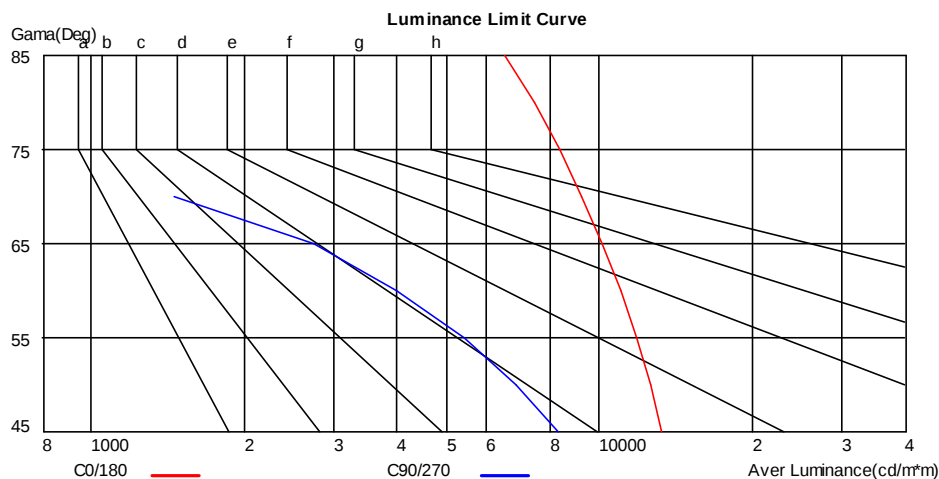
Remark:

Measured Para U: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04	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	13311.5	12613.2	11843.9	11025.7	10150.4	9230.2	8369.0	7441.3	6521.0
C90	8307.0	6869.9	5421.9	3993.3	2735.7	1452.1	373.4	267.9	260.9

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

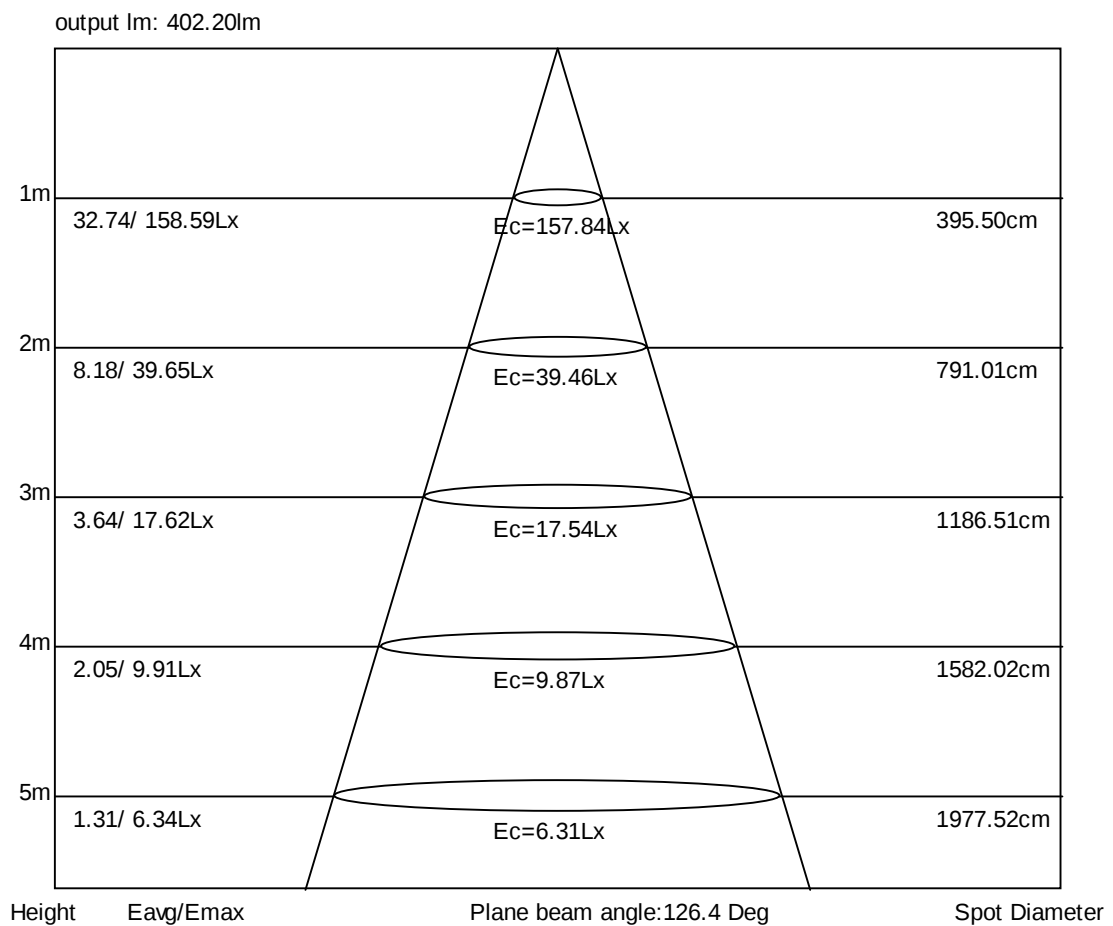
Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04	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

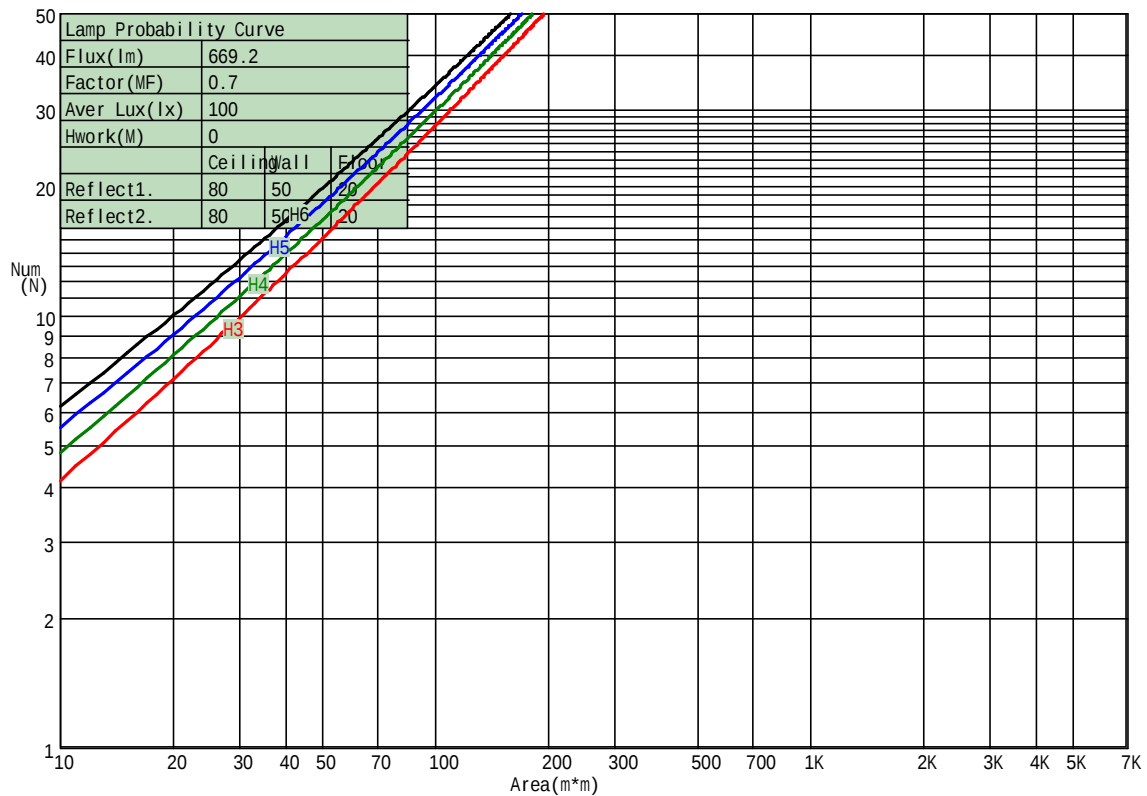
Humidity(%): 60

Date: 2023-10-30

Remark:

Measured Para U: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04	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: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04	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	20	10	35	19	9	30	16	7
0.80	47	29	17	43	27	16	37	23	13
1.00	53	34	22	49	32	20	42	28	18
1.25	58	40	27	54	37	25	46	32	22
1.50	62	44	30	57	41	28	49	35	24
2.00	67	49	35	62	45	32	52	39	28
2.50	70	52	37	64	48	35	54	41	30
3.00	72	54	39	66	50	36	56	42	31
4.00	74	57	41	68	52	38	57	44	32
5.00	75	58	43	69	53	39	58	45	33

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	1.1	1.1	1.1	1.02	1.02	1.02	0.94	0.94	0.94	0.87	0.87	0.87
1	0.97	0.92	0.87	0.93	0.88	0.84	0.85	0.82	0.78	0.79	0.76	0.73	0.72	0.7	0.68
2	0.83	0.76	0.69	0.8	0.73	0.67	0.73	0.68	0.63	0.68	0.63	0.59	0.62	0.58	0.55
3	0.72	0.64	0.57	0.69	0.61	0.55	0.64	0.57	0.52	0.59	0.53	0.49	0.54	0.5	0.46
4	0.64	0.54	0.47	0.61	0.53	0.46	0.56	0.49	0.44	0.52	0.46	0.41	0.48	0.43	0.39
5	0.57	0.47	0.4	0.54	0.46	0.39	0.5	0.43	0.37	0.47	0.4	0.35	0.43	0.38	0.33
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	0.33	0.29
7	0.46	0.37	0.31	0.44	0.36	0.3	0.41	0.34	0.28	0.38	0.32	0.27	0.35	0.3	0.26
8	0.42	0.33	0.27	0.4	0.32	0.26	0.37	0.3	0.25	0.35	0.29	0.24	0.32	0.27	0.23
9	0.38	0.3	0.24	0.37	0.29	0.24	0.34	0.27	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	0.22	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: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm															
Lamp Name: LED TUBE								Lamp Type:				Weight(kg):			
Lamp ID: LPTL10DS04								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	0.25	0.14	0.05
3	0.29	0.15	0.05	0.28	0.15	0.04	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	0.12	0.04	0.22	0.12	0.04	0.2	0.11	0.03
5	0.24	0.12	0.04	0.23	0.12	0.03	0.21	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	0.18	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	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02
9	0.18	0.08	0.02	0.17	0.08	0.02	0.16	0.08	0.02	0.15	0.07	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	0.32	0.32	0.32	0.27	0.27	0.27	0.19	0.19	0.19	0.11	0.11	0.11	0.03	0.03	0.03
1	0.31	0.29	0.26	0.27	0.24	0.22	0.18	0.17	0.15	0.11	0.1	0.09	0.03	0.03	0.03
2	0.31	0.26	0.22	0.26	0.23	0.19	0.18	0.16	0.14	0.1	0.09	0.08	0.03	0.03	0.03
3	0.3	0.25	0.2	0.26	0.21	0.18	0.18	0.15	0.12	0.1	0.09	0.07	0.03	0.03	0.02
4	0.29	0.23	0.19	0.25	0.2	0.16	0.17	0.14	0.12	0.1	0.08	0.07	0.03	0.03	0.02
5	0.28	0.22	0.18	0.24	0.19	0.16	0.17	0.13	0.11	0.1	0.08	0.06	0.03	0.03	0.02
6	0.28	0.22	0.17	0.24	0.19	0.15	0.16	0.13	0.11	0.1	0.08	0.06	0.03	0.03	0.02
7	0.27	0.21	0.17	0.23	0.18	0.14	0.16	0.13	0.1	0.09	0.07	0.06	0.03	0.02	0.02
8	0.26	0.2	0.16	0.23	0.18	0.14	0.16	0.12	0.1	0.09	0.07	0.06	0.03	0.02	0.02
9	0.26	0.2	0.16	0.22	0.17	0.14	0.15	0.12	0.1	0.09	0.07	0.06	0.03	0.02	0.02
10	0.25	0.19	0.16	0.22	0.17	0.14	0.15	0.12	0.1	0.09	0.07	0.06	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: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04	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	158	158	157	157	158	157	157	157	0-5	3.77	3.77
10	159	157	154	156	157	155	155	155	5-10	11.2	15
15	158	156	150	154	155	151	151	152	10-15	18.4	33.3
20	156	153	145	151	152	147	146	149	15-20	25	58.4
25	153	149	136	147	149	141	140	144	20-25	30.9	89.3
30	150	145	124	141	144	135	133	138	25-30	35.9	125
35	145	139	111	135	139	128	124	131	30-35	39.8	165
40	140	132	97.3	128	133	120	115	124	35-40	42.5	208
45	133	125	83.1	120	127	112	104	115	40-45	44.1	252
50	126	117	68.7	112	119	103	93.5	106	45-50	44.6	296
55	118	108	54.2	103	111	93.2	82.2	96.9	50-55	43.8	340
60	110	98.6	39.9	93.9	103	83.2	70.3	87.1	55-60	42	382
65	102	89	27.4	84.1	93.3	72.9	58	77	60-65	39.1	421
70	92.3	79.1	14.5	73.9	83.7	62.5	45.5	66.8	65-70	35.5	457
75	83.7	69	3.73	63.5	73.9	52.4	33.1	56.5	70-75	31.1	488
80	74.4	58.8	2.68	53.3	64.8	43.3	21.3	46.8	75-80	26.7	514
85	65.2	49.1	2.61	44.2	56.6	36.6	9.23	38.9	80-85	22.6	537
90	57.5	41.2	2.58	37.4	51.2	33.2	2.89	34.7	85-90	19.1	556
95	52.8	36.4	2.62	33.9	47.9	30.7	2.3	32.4	90-95	17	573
100	49.7	34.1	2.72	30.9	44.9	28.5	2.42	30.4	95-100	15.7	589
105	46.7	31.9	2.87	27.1	41.8	26	2.59	28.3	100-105	14.4	603
110	43.6	29.8	3.03	25.3	38.8	22.6	2.84	26.4	105-110	13.1	616
115	40.5	27.8	3.22	22.9	35.8	19.6	3.08	24.5	110-115	11.7	628
120	37.4	25.8	3.45	20.3	32.7	16.2	3.33	21.3	115-120	10.3	638
125	34.4	23.9	3.68	15.7	29.5	10.9	3.62	11.7	120-125	8.5	647
130	31.4	18	3.93	12.7	22.8	5.81	3.87	4.91	125-130	6.48	653
135	27.1	7.29	4.16	8.21	16.1	4.84	4.13	4.45	130-135	4.51	658
140	15.5	4.72	4.39	5.25	12.2	4.99	4.4	4.67	135-140	3.05	661
145	5.5	4.87	4.63	5.22	6.18	5.13	4.62	4.89	140-145	2	663
150	5.5	4.99	4.83	5.36	5.5	5.27	4.87	5.08	145-150	1.51	664
155	5.61	5.15	5.03	5.46	5.58	5.37	5.09	5.25	150-155	1.33	666
160	5.71	5.27	5.22	5.55	5.69	5.47	5.27	5.43	155-160	1.13	667
165	5.83	5.4	5.36	5.63	5.78	5.56	5.42	5.57	160-165	0.91	668
170	5.88	5.49	5.49	5.72	5.87	5.64	5.54	5.68	165-170	0.67	668
175	5.94	5.57	5.6	5.76	5.95	5.65	5.61	5.78	170-175	0.41	669
180	6	5.65	5.64	5.8	5.98	5.64	5.65	5.77	175-180	0.14	669

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: 215.6V I: 73.18mA P: 8.11W PF: 0.514 Test LM: 695.84lm		
Lamp Name: LED TUBE	Lamp Type:	Weight(kg):
Lamp ID: LPTL10DS04	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	158	158	158	158	157	157	157	158	158	158	157	157	157	157	157	157	157	158
10.0	159	158	157	156	155	155	156	157	157	157	156	155	155	155	155	155	156	157
15.0	158	157	156	154	151	151	153	154	155	155	153	152	151	151	152	152	153	155
20.0	156	155	153	150	147	146	149	151	152	152	150	147	147	146	147	148	150	153
25.0	153	152	150	145	139	138	143	147	148	149	146	142	141	140	141	143	145	149
30.0	150	148	145	138	128	128	135	142	143	144	140	136	134	133	134	136	139	145
35.0	145	142	139	130	117	116	127	135	137	139	134	129	127	125	126	129	133	139
40.0	140	136	133	121	105	104	118	128	131	133	127	121	118	116	117	121	125	133
45.0	133	129	126	111	92.2	91.2	108	121	124	127	120	113	109	106	107	112	117	125
50.0	126	122	118	101	79.2	78.2	97.7	113	116	119	112	105	99.7	95.5	96.3	102	109	117
55.0	118	114	109	90.2	65.9	64.9	87.1	104	108	111	103	95.2	89.6	84.6	85.4	92.1	99.2	109
60.0	110	105	99.9	79.3	52.8	51.7	76.2	94.8	98.8	103	94.1	85.3	79	73.1	74	81.6	89.6	100
65.0	102	96.1	90.4	68.8	40.9	39.8	65.5	85.1	89.3	93.3	84.4	75.1	68	61.3	62.2	70.8	79.7	90.8
70.0	92.3	86.5	80.6	57.9	28.7	27.5	54.4	75	79.4	83.7	74.4	64.8	56.9	49.2	50.1	59.8	69.6	81.1
75.0	83.7	77.3	70.6	47.6	18	16.8	43.9	64.7	69.4	73.9	64.5	54.7	46	37.3	38.2	48.8	59.5	71.8
80.0	74.4	67.6	60.5	40.4	15	13.8	36.7	54.6	59.8	64.8	55.4	45.6	36.1	26.1	26.9	38.4	49.8	62.3
85.0	65.2	58.2	50.9	33.9	12.8	11.7	30.6	45.6	51.2	56.6	47.8	38.8	27.6	15.2	15.7	29.2	41.8	53.7
90.0	57.5	50.4	43	28.5	11	10.2	26	38.9	45.2	51.2	43.3	35.1	23.2	9.52	9.85	24.2	37.2	47.5
95.0	52.8	45.6	38.2	25.3	10	9.47	23.7	35.5	41.8	47.9	40.4	32.6	21.4	8.51	8.89	22.5	34.7	43.9
100.0	49.7	42.9	35.8	23.8	9.58	8.87	21.6	32.4	38.7	44.9	37.7	30.3	19.9	8.12	8.54	21.2	32.5	41.2
105.0	46.7	40.2	33.5	22.4	9.22	8.16	19.1	28.7	35.4	41.8	34.9	27.7	18.3	7.72	8.23	19.9	30.4	38.7
110.0	43.6	37.6	31.3	21	8.88	7.91	18	26.8	32.9	38.8	31.7	24.4	16.1	7.16	7.99	18.7	28.3	36.1
115.0	40.5	34.9	29.1	19.7	8.59	7.52	16.4	24.3	30.2	35.8	28.7	21.4	14.2	6.7	7.77	17.5	26.2	33.5
120.0	37.4	32.3	27.1	18.5	8.34	7.14	14.8	21.7	27.3	32.7	25.5	18	12	6.15	7.27	15.4	23.1	30.4
125.0	34.4	29.8	25.1	17.3	8.11	6.32	11.8	17.2	23.5	29.5	21.3	12.9	8.52	5.22	5.39	9.05	14.2	24.5
130.0	31.4	25.5	19.5	13.4	7.01	5.85	9.82	13.8	18.4	22.8	15.3	7.66	5.17	4.3	4.1	4.57	7.81	19.8
135.0	27.1	18.5	9.46	6.26	4.85	5.05	6.88	9.07	12.6	16.1	11.2	6.07	4.61	4.29	4.2	4.34	6.93	17.2
140.0	15.5	10.8	5.9	4.62	4.47	4.58	4.97	6.01	9.14	12.2	9.03	5.77	4.8	4.53	4.46	4.58	5.85	10.8
145.0	5.5	5.23	4.94	4.79	4.68	4.76	5.03	5.33	5.76	6.18	5.72	5.25	4.97	4.74	4.68	4.8	4.96	5.23
150.0	5.5	5.28	5.04	4.94	4.86	4.94	5.18	5.37	5.44	5.5	5.4	5.29	5.14	4.96	4.92	5.01	5.12	5.32
155.0	5.61	5.41	5.2	5.11	5.06	5.13	5.32	5.48	5.53	5.58	5.49	5.39	5.28	5.15	5.13	5.2	5.29	5.46
160.0	5.71	5.52	5.32	5.26	5.23	5.3	5.45	5.57	5.63	5.69	5.6	5.5	5.41	5.31	5.3	5.38	5.46	5.59
165.0	5.83	5.64	5.45	5.39	5.37	5.42	5.54	5.65	5.72	5.78	5.68	5.58	5.51	5.45	5.45	5.52	5.6	5.72
170.0	5.88	5.71	5.54	5.49	5.49	5.54	5.65	5.74	5.81	5.87	5.77	5.67	5.61	5.57	5.57	5.63	5.7	5.79
175.0	5.94	5.78	5.61	5.58	5.59	5.63	5.71	5.78	5.87	5.95	5.82	5.69	5.64	5.62	5.65	5.72	5.8	5.87
180.0	6	5.85	5.69	5.65	5.64	5.68	5.75	5.82	5.9	5.98	5.83	5.68	5.65	5.65	5.68	5.73	5.8	5.9

Gama Angle Range:-180 - 180(Deg)

Gama interval(Deg): 1

Temperature(Deg): 30

Tester: zyg

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: