

APPLICATION FOR TEST REPORT

On Behalf of

Interlight Enjoy Innovation B.V.

IP44 Indoor batten Basic

Model No.: IL-BN60K4

Prepared for: Interlight Enjoy Innovation B.V.

Smalriemseweg 6,4112 NC Beusichem, The Netherlands

Prepared By: Shenzhen TCT Testing Technology Co., Ltd.

1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong,

Baoan District, Shenzhen, Guangdong, China

Date of Test: Jan. 09, to Jan. 17, 2019

Date of Report: Jan. 17, 2019

Report Number: TCT190109S009

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Test Report IESNA LM 79: 2008 ELECTRICAL AND PHOTOMETRIC MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

ELECTRICAL AND PHOTOMETR	RIC MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS
Report reference No	. TCT190109S009
Tested by (+ signature)	. Moon Ding
Approved by (+ signature)	. Thomas
Date of issue	. Jan. 17, 2019
	. Shenzhen TCT Testing Technology Co., Ltd.
Address	1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China
Testing location	. CBTL CCATL SMT TMP
Address	
Applicant's Name	Interlight Enjoy Innovation B.V.
Address	. Smalriemseweg 6,4112 NC Beusichem,The Netherlands
Manufacturer	. Guangdong Mage Intelligent Lighting Co. Ltd.
Address	. Block 2, No.1 Bei Shui Industrial Area 2, Baian Road, Bei Shui Village Committee, Xingtan, Shunde, Guangdong Foshan, China
Test item description	. IP44 Indoor batten Basic
Trademark	U INTER LIGHT
Model and/or type reference	. IL-BN60K4



	IES LM-79-08	
Clause	Requirement – Test Measuring result – Remark	Verdict
2.0	Ambient Conditions	P
2.1	Genaral	P
2.2	Air Temperature	P
2.3	Thermal Condition for Mounting SSL Products	P
2.4	Air Movement	P
3.0	Power Supply Characteristics	P
3.1	Waveshape of AC power supply	P
3.2	Voltage regulation	Р
4.0	Seasoning of SSL Product	N/A
	No seasoning of SSL product	Р
5.0	Stabilisation of SSL Product	P
	SSL product has sufficiently satbilised before measurment	Р
6.0	Operation Orientation	P
	SSL product shall be stabilized and measured in intended operating orientation	Р
7.0	Electrical Settings	Р
	SSL product shall be operated at rated voltage	Р
	SSL product with dimming capability are tested at maximum input power condition	N/A
	SSL product with different modes are measured in all relvant modes	N/A
8.0	Electrical Instrumenttions	Р
8.1	Circuits	Р
8.2	Uncertainties	N/A
9.0	Testmethodes for Luminous Flux measurment	Р
9.1	Integrating sphere with a spectroradiometer	N/A
	(Sphere-spectroradiometer system)	
9.2	Integrating sphere with a photometer	N/A
	head (Sphere-photometer system)	
9.3	Goniophotometer	Р
10.0	Luminous Intensity Distribution	Р
	Reporting acc. to IEC LM-63	Р
11.0	Luminous Efficay	Р
	Calculation	Р
12.0	Test Methodes for Color Characteristics of SSL Products	Р
	Measurments	Р
13.0	Uncertainty statement	N/A



Sample Name: IP44 Indoor batten Basic

Test Results:

Test item	Results
Voltage (V)	240.0
Current (A)	0.084
Power Factor	0.974
Power (W)	19.7
Luminous flux (Im)	2239.18
Luminous Efficiency(Im/W)	113.73
Luminous Intensity Distribution	See attached figure 2

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Sample Name: IP44 Indoor batten Basic

Figure 1:

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	682.054	.000	.000	.000%	.000%
5.0	678.737	16.268	16.268	.727%	.727%
10.0	668.907	48.209	64.477	2.153%	2.880%
15.0	652.389	78.378	142.856	3.500%	6.380%
20.0	629.689	105.661	248.517	4.719%	11.099%
25.0	601.853	129,166	377.683	5.768%	16.867%
30.0	569.378	148.220	525.903	6.619%	23.486%
35.0	532.637	162.280	688.183	7.247%	30.734%
40.0	492.738	171.076	859.259	7.640%	38.374%
45.0	449.903	174.538	1033.797	7.795%	46.168%
50.0	405.588	172.865	1206.661	7.720%	53.888%
55.0	359.247	166.301	1372.962	7.427%	61.315%
60.0	312.114	155.183	1528.145	6.930%	68.246%
65.0	264.799	140.249	1668.394	6.263%	74.509%
70.0	217.310	122.073	1790.467	5.452%	79.961%
75.0	172.093	101.784	1892.250	4.546%	84.506%
80.0	130.967	81.090	1973.340	3.621%	88.128%
85.0	96.616	61.840	2035.180	2.762%	90.889%
90.0	72.397	46.277	2081.458	2.067%	92.956%
95.0	56.417	35.270	2116.728	1.575%	94.531%
100.0	45.320	27.644	2144.372	1.235%	95.766%
105.0	37.168	22.072	2166.444	.986%	96.752%
110.0	30.868	17.784	2184.227	.794%	97.546%
115.0	25.375	14.241	2198.468	.636%	98.182%
120.0	20.840	11.235	2209.703	.502%	98.683%
125.0	16.882	8.719	2218.423	.389%	99.073%
130.0	13.598	6.627	2225.050	.296%	99.369%
135.0	10.812	4.932	2229.982	.220%	99.589%
140.0	8.413	3.560	2233.542	.159%	99.748%
145.0	6.197	2.438	2235.980	.109%	99.857%
150.0	4.409	1.562	2237.542	.070%	99.927%
155.0	2.952	.932	2238.473	.042%	99.968%
160.0	1.551	.472	2238.946	.021%	99.989%
165.0	.681	184	2239.129	.008%	99.998%
170.0	.135	.048	2239.178	.002%	100.000%
175.0	.000	.005	2239.183	.000%	100,000%
180.0	.016	.000	2239.183	.000%	100.000%



Sample Name: IP44 Indoor batten Basic

Zonal flux distribution table

ZON	NAL LUMEN SUM	MARY
Zone	Lumens	%Fixt
0-30	525.90	23.49%
0-40	859.26	38.37%
0-60	1528.15	68.25%
0-90	2081.46	92.96%
0-120	2209.70	98.68%
0-180	2239.18	100.00%
60-90	708.50	31.64%
90-120	174.52	7.79%
90-130	189.87	8.48%
90-150	202.36	9.04%
90-180	204.00	9.11%
0-70.04	1791.35	80.00%

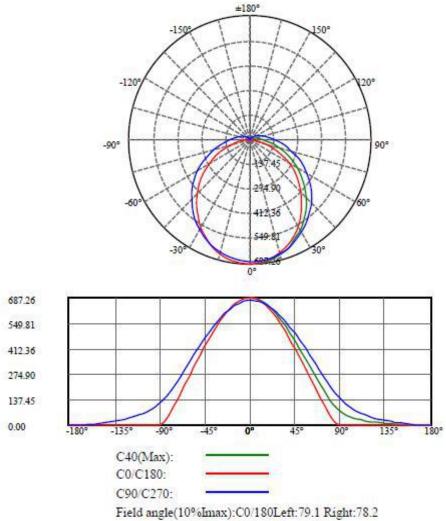
0-10	64.48
10-20	184.04
20-30	277.39
30-40	333.36
40-50	347.40
50-60	321.48
60-70	262.32
70-80	182.87
80-90	108.12
90-100	62.91
100-110	39.86
110-120	25.48
120-130	15.35
130-140	8.49
140-150	4.00
150-160	1.40
160-170	0.23
170-180	0.00



Sample Name: IP44 Indoor batten Basic

Figure 2:

Light Distribution Curve (Unit:cd)



:C90/270Left:104.0 Right:109.2

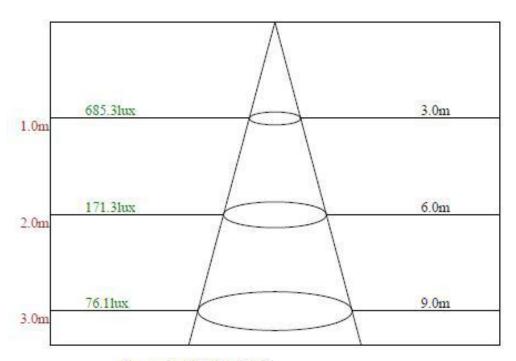
Beam Angle(50%Imax):C0/180Left:52.6 Right:51.8
:C90/270Left:60.6 Right:64.6



Sample Name: IP44 Indoor batten Basic

Figure 3:

Lux Distance Curve



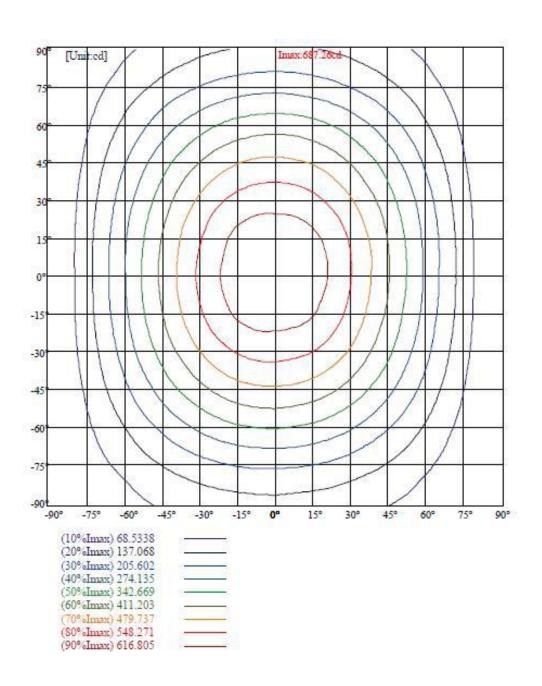
Beam angle of C40plane112.89



Sample Name: IP44 Indoor batten Basic

Figure 4:

ISO-Intensity(V-H)

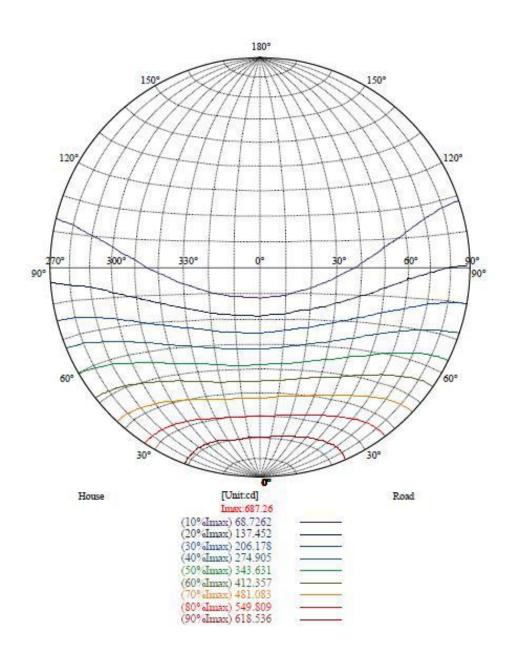




Sample Name: IP44 Indoor batten Basic

Figure 5:

ISO candela diagram on circular web

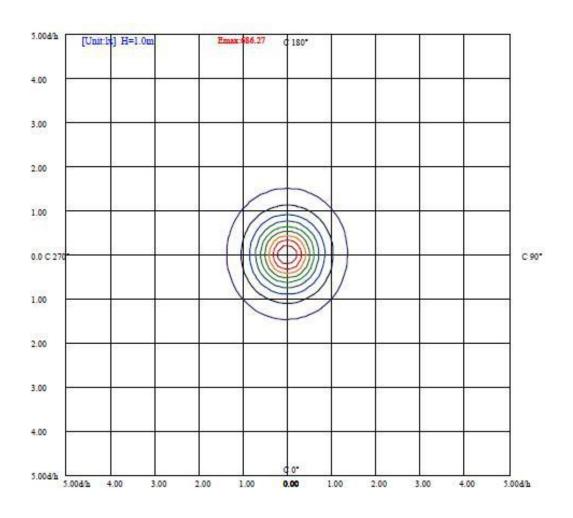




Sample Name: IP44 Indoor batten Basic

Figure 6:

ISO illuminance diagram



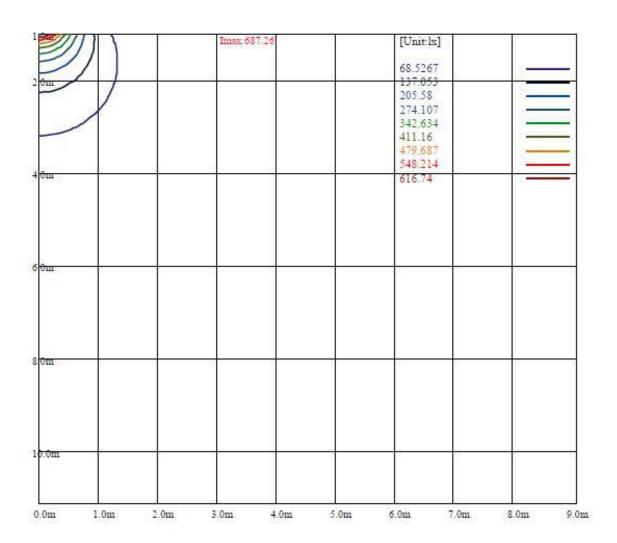
(10%Emax) 68.6264 (20%Emax) 137.253 (30%Emax) 205.879 (40%Emax) 274.505 (50%Emax) 343.132 (60%Emax) 411.758 (70%Emax) 480.385 (80%Emax) 549.011 (90%Emax) 617.637



Sample Name: IP44 Indoor batten Basic

Figure 7:

Space ISO Lux diagram





Sample Name: IP44 Indoor batten Basic

Figure 8:

Luminance Limitting Curve(no luminous side)

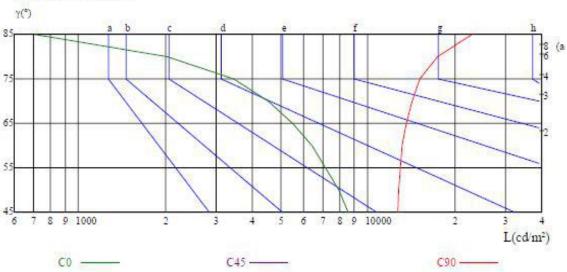
Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	8552	7945	7164	6428	5491	4548	3456	2032	708
C45	0	0	0	0	0	0	0	.0	0
C90	12735	12795	12975	13152	13569	14230	15175	17489	22881

Glare Table

Glare	Quality	Service Values Illuminance(lx)									
1.15	A	2000	1000	500	<=300	8		Ĭ	- 1		
1.5	В		2000	1000	500	<=300		Ü			
1.85	С	V.		2000	1000	500	<=300		Į,		
2.2	D	60	as	69	2000	1000	500	<=300	- 6:		
2.55	E					2000	1000	500	=300		
	100	а	Ъ	c	d	e	f	g	h		

Luminance Limitting Curve





Sample Name: IP44 Indoor batten Basic

Figure 9:

UGR Glare

Rf of (eiling	70	70	50	50	30	70	70	50	50	30	
Rfof	Wall	50	30	50	30	30	50	30	50	30	30	
RfofI	loor	20	20	20	20	20	20	20	20	20	20	
Room	dimension	15	Viewe	d crosswi	se	50	30000	Viewe	d endwise	18	66	
X	Y								DATE OF SIGN I			
2H	2H	15.0	16.4	15.4	16.8	17.1	13.2	14.6	13.6	14.9	15.3	
	3 H	17.3	18.5	17.7	18.9	19.3	14.5	15.7	14.9	16.1	16.5	
	4H	18.2	19.2	18.7	19.7	20.2	14.7	15.7	15.2	16.2	16.7	
	6H	19.5	20.5	19.9	20.9	21.4	15.0	16.0	15.5	16.5	17.0	
	SH	20.1	21.1	20.6	21.6	22.1	15.1	16.1	15.6	16.6	17.0	
	12H	20.5	21.3	21.1	21.8	22.4	14.9	15.7	15.4	16.2	16.7	
4H	2H	15.4	16.4	15.9	16.9	17.3	14.0	15.0	14.5	15.4	15.9	
	3H	17.8	18.6	18.4	19.1	19.7	15.4	16.2	16.0	16.7	17.3	
	4H	19.2	20.0	19.7	20.5	21.0	16.1	16.8	16.6	17.4	17.9	
	6H	20.6	21.4	21.1	21.9	22.5	16.5	17.2	17.0	17.8	18,3	
	SH	21.2	21.6	21.8	22.2	22.9	16.4	16.8	17.0	17.4	18.1	
	12H	22.0	22.4	22.6	23.0	23.7	16.4	16.9	17.0	17.5	18.1	
SH	4H	19.3	19.8	19.9	20.4	21.0	16.6	17.1	17.2	17.7	18.4	
	6H	21.0	21.4	21.6	22.0	22.7	17.3	17.7	17.9	18.3	19.0	
	SH	21.9	22.3	22.5	22.9	23.6	17.5	17.9	18.1	18.5	19.2	
	12H	22.8	23.3	23.4	23.9	24.6	17.6	18.0	18.2	18.6	19.3	
12H	4H	19.4	19.8	20.0	20.4	21.1	16.9	17.3	17.5	17.9	18.6	
	6H	21.0	21.5	21.6	22.1	22.8	17.6	18.0	18.2	18.6	19.3	
	SH	22.0	22.5	22.6	23.1	23.7	17.9	18.3	18.5	18.9	19.6	
	ion with th	ie obseiv	er positio				(85					
S	= 1.0H			0.2/-1.					0.3/-0.			
	= 1.5H			0.5/-0.					0.5/-0.			
S	= 2.0H			0.4/-0.					0.9/-1.	0		
	rd tables:			BKBF	8				BK5			
Uncon	rected UG	R		11.4	11.4				5.6			



Sample Name: IP44 Indoor batten Basic

Figure 10:

Utilization factor table for indoor luminaire

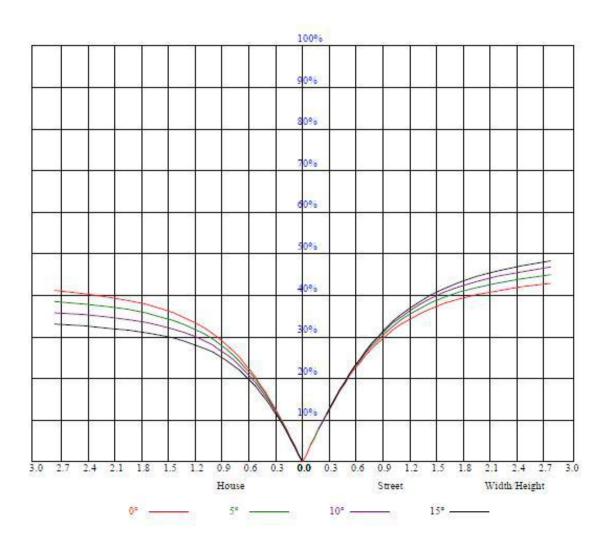
RHOCO	8	80		21	70			50		33	30		383	10		0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR		e e	162	24.1	COEF	FCIEN	rs of t	TILIZA	TION	RHOFC	=20 C	U	84	42	1,37	805
0	1.17	1.17	1.17	1.14	1.14	1.14	1.07	1.07	1.07	1.01	1.01	1.01	0.96	0.96	0.96	0.93
1	1.00	0.95	0.91	0.97	0.93	0.89	0.92	0.88	0.85	0.87	0.84	0.81	0.82	0.79	0.77	0.75
2	0.87	0.79	0.73	0.84	0.77	0.72	0.79	0.74	0.69	0.75	0.70	0.66	0.71	0.67	0.64	0.61
3	0.76	0.67	0.60	0.74	0.66	0.59	0.70	0.63	0.57	0.66	0.60	0.55	0.62	0.58	0.54	0.51
4	0.67	0.58	0.51	0.65	0.57	0.50	0.62	0.54	0.49	0.58	0.52	0.47	0.55	0.50	0.46	0.43
5	0.60	0.50	0.44	0.58	0.49	0.43	0.55	0.48	0.42	0.52	0.46	0.41	0.50	0.44	0.40	0.37
6	0.54	0.44	0.38	0.52	0.44	0.37	0.50	0.42	0.37	0.47	0.41	0.36	0.45	0.39	0.35	0.33
7	0.49	0.40	0.33	0.47	0.39	0.33	0.45	0.38	0.32	0.43	0.36	0.32	0.41	0.35	0.31	0.29
8	0.44	0.36	0.30	0.43	0.35	0.29	0.41	0.34	0.29	0.40	0.33	0.28	0.38	0.32	0.28	0.26
9	0.41	0.32	0.27	0.40	0.32	0.26	0.38	0.31	0.26	0.36	0.30	0.25	0.35	0.29	0.25	0.23
10	0.37	0.29	0.24	0.37	0.29	0.24	0.35	0.28	0.23	0.34	0.27	0.23	0.32	0.27	0.23	0.21
RCR			10-	90	COEF	FCIEN	TS OF U	TILIZA	TION	RHOFC	=20 V	VLC	84	2	.5	805
1	0.35	0.20	0.06	0.34	0.19	0.06	0.32	0.18	0.06	0.30	0.18	0.06	0.29	0.17	0.05	Ĵ
2	0.31	0.17	0.05	0.30	0.17	0.05	0.29	0.16	0.05	0.27	0.15	0.05	0.26	0.15	0.05	j.
3	0.28	0.15	0.04	0.27	0.15	0.04	0.26	0.14	0.04	0.25	0.14	0.04	0.24	0.13	0.04	10
4	0.26	0.13	0.04	0.25	0.13	0.04	0.24	0.13	0.04	0.23	0.12	0.04	0.22	0.12	0.04	15
5	0.24	0.12	0.03	0.23	0.12	0.03	0.22	0.11	0.03	0.21	0.11	0.03	0.20	0.11	0.03	100
6	0.22	0.11	0.03	0.21	0.11	0.03	0.20	0.10	0.03	0.19	0.10	0.03	0.18	0.10	0.03	
7	0.20	0.10	0.03	0.20	0.10	0.03	0.19	0.09	0.03	0.18	0.09	0.03	0.17	0.09	0.03	
8	0.19	0.09	0.03	0.18	0.09	0.03	0.17	0.09	0.02	0.17	0.08	0.02	0.16	0.08	0.02]
9	0.18	0.08	0.02	0.17	0.08	0.02	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02	10
10	0.16	0.08	0.02	0.16	0.08	0.02	0.15	0.08	0.02	0.15	0.07	0.02	0.14	0.07	0.02	18
RCR	8				COEF	FCIEN	TS OF U	TILIZA	ATION I	RHOFC	=20 C	CLU				
0	0.24	0.24	0.24	0.21	0.21	0.21	0.14	0.14	0.14	0.08	0.08	0.08	0.03	0.03	0.03	
1	0.20	0.19	0.18	0.18	0.17	0.16	0.13	0.12	0.11	0.08	0.07	0.06	0.03	0.02	0.02	J.
2	0.17	0.16	0.14	0.16	0.14	0.12	0.12	0.10	0.09	0.07	0.06	0.05	0.03	0.02	0.02	jj
3	0.15	0.13	0.12	0.14	0.12	0.10	0.11	0.09	0.07	0.07	0.06	0.04	0.03	0.02	0.02	10
4	0.14	0.12	0.10	0.13	0.11	0.09	0.10	0.08	0.07	0.07	0.05	0.04	0.02	0.02	0.01	15
5	0.13	0.11	0.09	0.12	0.10	0.08	0.10	0.08	0.06	0.07	0.05	0.04	0.02	0.02	0.01	
6	0.12	0.10	0.08	0.11	0.09	0.07	0.09	0.07	0.05	0.06	0.05	0.03	0.02	0.02	0.01	1
7	0.11	0.09	0.08	0.11	0.09	0.07	0.09	0.07	0.05	0.06	0.04	0.03	0.02	0.02	0.01	
8	0.11	0.09	0.07	0.10	0.08	0.07	0.09	0.06	0.05	0.06	0.04	0.03	0.02	0.02	0.01	Î
9	0.10	0.08	0.07	0.10	0.08	0.06	0.08	0.06	0.05	0.06	0.04	0.03	0.02	0.01	0.01	1
10	0.10	0.08	0.07	0.10	0.08	0.06	0.08	0.06	0.05	0.06	0.04	0.03	0.02	0.01	0.01	18



Sample Name: IP44 Indoor batten Basic

Figure 11:

Coefficient Utilization Curve





Sample Name: IP44 Indoor batten Basic

Figure 12:

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	685.27	680.99	668.74	649.08	621.16	589.81	548.78	507.47	458.46
10.0	686.41	682.42	670.45	652.21	623.72	593.23	553.34	512.88	468.43
20.0	685.55	681.85	671.31	651.64	627.43	594.94	559.90	520.29	473.85
30.0	685.55	682.70	672.16	653.35	631.13	602.07	565.59	528.55	483.25
40.0	687.26	683.56	674.44	657.63	635.97	605.77	573.57	537.10	494.36
50.0	685.27	682.42	673.02	656.77	635.97	610.90	577.28	543.08	506.61
60.0	681.56	679.57	671.59	656.20	637.40	613.46	582.69	551.06	513.17
70.0	679.57	677.29	670.17	657.63	638.82	615.74	586.68	557.05	523.99
80.0	676.15	675.01	667.89	655.63	638.54	614.89	590.38	558.47	527.70
90.0	672.73	671.31	666.46	653.07	636.54	614.32	588.67	560.75	527.13
100.0	674.15	673.30	667.03	654.49	637.68	616.60	589.53	561.32	526.56
110.0	677.29	676.43	669.60	657.34	638.82	616.88	587.25	557.90	525.70
120.0	681.28	680.71	673.02	660.19	639.39	615.74	587.82	553.91	519.44
130.0	684.98	683.84	675.01	660.48	639.68	614.32	584.97	547.93	511.17
140.0	684.98	682.99	673.87	658.77	636.83	610.33	577.28	541.38	498.92
150.0	682.70	680.42	671.88	655.92	631.41	602.92	567.59	530.83	490.09
160.0	682.13	679.28	669.60	653.07	627.14	597.79	563.32	521.43	480.40
170.0	684.13	680.99	671.31	652.21	627.14	594.94	559.61	518.87	471.00
180.0	685.27	681.56	670.17	652.50	628.00	594.94	558.19	514.02	469.00
190.0	686.41	682.99	671.59	653.64	625.15	594.94	559.61	515.73	471.00
200.0	685.55	681.85	671.31	652.21	628.00	594.66	559.33	520.29	472.99
210.0	685.55	681.85	671.31	652.78	629.14	597.22	563.60	525.13	479.83
220.0	687.26	682.99	673.02	654.49	631.41	601.50	568.73	528.55	487.24
230.0	685.27	680.99	671.02	653.07	631.70	602.35	570.72	532.26	493.22
240.0	681.56	677.57	668.17	651.93	630.56	602.35	572.72	535.96	499.49
250.0	679.57	675.58	664.75	649.94	630.27	603.49	574.43	539.67	504.05
260.0	676.15	672.45	662.19	647.66	626.29	602.07	571.58	541.09	506.33
270.0	672.73	668.74	659.05	643.10	623.15	599.79	570.44	539.38	502.34
280.0	674.15	669.31	660.48	644.24	623.72	598.08	569.58	535.39	501.48
290.0	677.29	672.73	661.62	646.23	623.44	598.65	569.87	533.68	499.21
300.0	681.28	677.29	665.61	649.37	625.72	599.22	568.44	531.12	494.36
310.0	684.98	680.14	668.17	651.36	626.00	597.79	565.31	526.27	486.38
320.0	684.98	679.28	668.17	650.22	624.29	595.23	559.04	520.86	479.83
330.0	682.70	678.14	665.04	646.80	619.73	589.53	554.48	512.88	470.43
340.0	682.13	677.29	664.75	644.81	617.74	585.83	549.64	506.04	463.02
350.0	684.13	678.71	666.75	645.95	619.73	584.40	547.64	506.33	458.17
360.0	685.27	680.99	668.74	649.08	621.16	589.81	548.78	507.47	458.46



Sample Name: IP44 Indoor batten Basic

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	410.88	362.72	307.44	256.16	200.31	149.31	100.01	50.43	14.53
10.0	418.00	369.27	314.57	264.42	213.42	159.28	110.84	62.97	27.64
20.0	428.83	377.25	328.53	279.81	225.95	178.65	127.65	86.05	49.29
30.0	439.37	393.78	342.49	296.62	244.19	198.88	149.88	109.13	76.36
40.0	452.19	405.46	360.44	314.85	265.84	220.82	173.53	133.92	98.30
50.0	462.73	422.27	375.83	332.52	289.21	241.05	198.31	155.57	123.38
60.0	476.70	437.09	393.21	351.89	304.31	261.85	215.41	176.94	143.61
70.0	485.53	447.63	405.75	364.43	321.98	275.53	233.93	191.76	158.14
80.0	489.80	453.62	414.58	371.84	329.95	284.36	242.48	204.30	167.54
90.0	493.51	455.33	417.14	374.40	333.37	291.49	246.47	207.72	169.82
100.0	492.94	456.18	414.58	374.97	329.67	287.78	243.05	204.58	170.11
110.0	487.24	449.91	407.17	366.14	324.26	278.38	236.21	194.04	160.42
120.0	478.97	439.94	398.62	352.75	310.29	262.71	220.54	178.37	145.03
130.0	468.72	427.12	380.67	336.79	292.91	244.47	202.59	158.71	126.23
140.0	457.03	414.01	364.72	319.70	270.12	224.81	181.22	137.62	104.29
150.0	443.64	398.34	347.62	300.04	252.74	202.02	157.85	115.97	78.93
160.0	431.39	385.23	332.52	284.36	235.36	182.93	136.48	89.75	54.99
170.0	425.69	372.98	323.12	272.97	218.83	168.68	115.97	70.38	30.77
180.0	422.84	369.27	318.84	263.28	211.42	156.14	106.28	60.12	18.81
190.0	420.28	371.84	321.69	265.84	214.56	160.42	112.83	67.53	28.21
200.0	427.40	375.83	327.10	277.24	222.82	174.95	124.23	82.63	48.72
210.0	435.38	384.95	337.36	284.93	236.50	190.05	141.33	101.44	66.67
220.0	441.36	395.77	349.61	299.47	253.02	204.01	161.27	121.38	87.19
230.0	452.48	405.46	361.58	312.00	267.27	222.82	176.09	139.05	104.86
240.0	460.17	415.43	372.98	324.83	280.66	236.78	191.48	154.72	120.24
250.0	463.30	423.41	381.24	334.51	290.63	243.90	202.87	166.40	132.21
260.0	465.87	427.12	382.67	339.93	296.33	249.89	210.00	170.96	139.05
270.0	465.87	427.69	383.52	341.64	295.19	252.45	208.29	172.96	141.90
280.0	464.44	421.99	380.67	335.08	292.91	250.46	206.29	169.82	136.20
290.0	457.32	417.71	376.11	329.38	285.50	239.06	198.03	162.70	129.08
300.0	451.34	409.74	363.86	318.84	274.96	227.38	186.63	147.60	117.39
310.0	445.07	398.62	354.17	305.16	260.15	211.42	169.82	133.06	100.58
320.0	433.67	388.37	337.93	291.49	241.62	196.03	153.58	112.83	83.20
330.0	421.70	376.11	328.53	276.10	228.80	178.37	134.49	92.32	61.55
340.0	413.15	365.29	317.42	263.85	214.84	162.70	117.39	72.94	41.32
350.0	411.73	358.45	308.58	257.87	202.87	153.29	102.01	58.13	21.66
360.0	410.88	362.72	307.44	256.16	200.31	149.31	100.01	50.43	14.53



Sample Name: IP44 Indoor batten Basic

C/y(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	8.83	4.27	2.56	1.71	1.14	0.28	0.28	0.00	0.28
20.0	28.49	18.52	12.82	8.83	7.69	6.27	4.84	3.42	2.85
30.0	51.29	37.04	27.35	21.94	17.38	14.53	11.40	9.40	7.12
40.0	74.37	56.42	43.88	35.90	28.21	23.36	19.09	15.67	12.82
50.0	94.60	75.22	60.41	48.72	40.46	32.77	27.35	22.79	17.95
60.0	113.97	91.18	72.94	60.98	51.57	41.89	35.05	27.92	23.36
70.0	127.94	104.00	84.34	70.09	58.98	49.01	40.46	32.77	27.07
80.0	138.19	111.41	92.60	75.79	63.83	53.28	43.59	35.33	29.06
90.0	140.19	116.54	94.60	78.64	65.25	54.71	43.88	36.19	30.20
100.0	137.34	112.83	90.89	76.36	64.11	52.71	44.73	35.90	29.35
110.0	129.36	104.29	85.48	70.38	59.55	48.72	40.75	34.19	27.35
120.0	117.11	92.03	74.94	61.55	51.00	42.74	35.33	28.49	23.36
130.0	99.16	75.22	60.69	49.29	41.03	34.48	27.92	22.79	18.52
140.0	76.93	57.84	45.87	36.19	29.92	23.93	19.09	15.96	12.25
150.0	54.42	37.33	28.49	21.94	17.67	14.25	11.40	9.69	7.41
160.0	31.63	18.81	13.68	9.97	7.98	6.27	4.84	3.70	2.85
170.0	10.54	4.56	2.56	1.99	1.14	0.57	0.57	0.28	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
190.0	9.69	3.70	1.99	0.57	0.57	0.00	0.00	0.00	0.00
200.0	26.50	16.53	10.83	8.26	5.98	4.56	3.70	2.28	1.99
210.0	44.73	31.91	24.50	18.81	15.10	11.40	9.12	7.12	5.13
220.0	64.68	47.87	38.75	30.49	25.07	19.95	15.67	12.25	9.97
230.0	81.21	64.40	51.00	42.74	34.19	28.49	22.79	18.81	14.53
240.0	96.02	77.22	61.55	51.86	42.74	35.62	29.63	23.65	18.81
250.0	106.28	85.48	70.95	59.55	49.86	41.60	34.19	27.64	22.51
260.0	111.41	91.75	76.65	63.83	54.14	45.02	37.33	30.77	24.50
270.0	113.97	93.74	76.93	64.97	56.13	46.73	39.04	31.34	24.79
280.0	111.12	91.18	74.37	63.83	52.71	44.16	36.76	30.20	24.50
290.0	104.29	84.06	68.95	57.84	49.01	40.75	33.91	27.92	21.94
300.0	93.46	73.80	60.69	50.43	42.17	34.76	28.49	23.36	18.81
310.0	78.07	60.69	49.29	41.03	33.62	27.07	21.66	17.67	14.25
320.0	59.27	45.59	36.76	28.78	23.65	18.81	15.39	11.40	9.69
330.0	41.89	29.35	22.79	17.10	13.39	10.54	8.55	6.55	4.84
340.0	22.79	13.96	9.97	7.12	5.41	4.27	3.42	2.28	1.42
350.0	6.55	2.28	1.42	0.57	0.57	0.00	0.00	0.00	0.00
360.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Sample Name: IP44 Indoor batten Basic

C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.0	2.28	1.42	0.28	0.57	0.00	0.00	0.00	0.00	0.00
30.0	5.98	3.99	2.85	1.99	1.42	0.28	0.00	0.00	0.00
40.0	10.26	7.98	5.98	3.99	2.85	1.14	0.57	0.28	0.00
50.0	14.82	11.40	8.83	5.98	4.27	1.99	1.14	0.00	0.00
60.0	18.81	14.53	11.11	7.98	5.13	3.13	1.71	0.57	0.00
70.0	21.66	17.67	13.39	9.69	6.27	3.99	1.71	0.57	0.00
80.0	23.36	18.81	13.68	9.97	7.12	4.27	1.99	0.28	0.00
90.0	24.22	19.38	14.82	11.11	7.12	4.27	1.99	0.57	0.00
100.0	23.65	19.09	14.82	10.54	7.41	4.56	2.56	0.57	0.00
110.0	22.51	17.38	12.82	9.69	6.55	3.70	1.71	0.57	0.00
120.0	18.81	14.25	10.83	8.26	5.70	3.42	1.42	0.28	0.00
130.0	14.82	11.40	8.26	6.27	4.56	2.28	1.14	0.00	0.00
140.0	10.54	8.26	5.70	3.70	2.85	1.71	0.85	0.00	0.00
150.0	5.98	4.84	3.42	2.28	1.14	0.28	0.28	0.00	0.00
160.0	1.71	1.71	1.14	1.14	0.57	0.00	0.00	0.00	0.00
170.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
190.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.0	1.42	0.57	0.00	0.00	0.28	0.00	0.00	0.00	0.00
210.0	4.27	3.13	1.99	1.14	0.85	0.00	0.00	0.00	0.00
220.0	7.69	5.98	3.99	2.56	1.71	0.57	0.28	0.00	0.00
230.0	11.11	9.40	6.27	4.27	2.85	1.71	0.00	0.00	0.00
240.0	14.53	11.40	7.98	5.98	3.42	1.99	0.85	0.57	0.00
250.0	17.67	13.68	9.97	6.84	4.27	1.99	1.14	0.00	0.00
260.0	19.66	14.82	10.83	7.41	5.70	2.85	1.14	0.28	0.00
270.0	19.66	15.39	11.40	8.55	5.13	2.85	1.14	0.00	0.00
280.0	19.38	14.53	10.83	7.69	5.41	2.56	0.85	0.28	0.00
290.0	17.10	13.39	10.26	6.84	4.56	2.28	0.85	0.00	0.00
300.0	14.53	10.83	8.83	6.27	3.99	1.71	0.85	0.00	0.00
310.0	10.54	8.26	6.27	3.99	2.56	1.71	0.28	0.00	0.00
320.0	7.41	5.70	3.99	2.56	1.99	0.28	0.00	0.00	0.00
330.0	3.70	2.85	1.99	1.42	0.57	0.28	0.00	0.00	0.00
340.0	1.14	0.85	0.57	0.00	0.00	0.00	0.00	0.00	0.00
350.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
360.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Sample Name: IP44 Indoor batten Basic

C/y(°)	180.0
0.0	0.00
10.0	0.00
20.0	0.28
30.0	0.00
40.0	0.00
50.0	0.00
60.0	0.00
70.0	0.00
80.0	0.00
90.0	0.00
100.0	0.00
110.0	0.00
120.0	0.00
130.0	0.00
140.0	0.00
150.0	0.00
160.0	0.00
170.0	0.00
180.0	0.00
190.0	0.00
200.0	0.28
210.0	0.00
220.0	0.00
230.0	0.00
240.0	0.00
250.0	0.00
260.0	0.00
270.0	0.00
280.0	0.00
290.0	0.00
300.0	0.00
310.0	0.00
320.0	0.00
330.0	0.00
340.0	0.00
350.0	0.00
360.0	0.00



Photo documentation:

Photo 1

- [√] General
- [] front
- [] rear
- [] right side
- [] left side
- [] top
- [] bottom
- [] internal



Photo 2

- [√] General
- [] front
- [] rear
- [] right side
- [] left side
- [] top
- [] bottom
- [] internal



End of the report