

# Test Report

## M/s. IDEAL LIGHTING SYSTEMS PVT LTD

REPORT NUMBER: 4787177826-01-NABL-S3

PROJECT NUMBER: 4787177826-01



T1431, T1432, T2215,  
T2216, T2233, T2234

Location (a)

UL India Lab,  
UL India Pvt Limited,  
Laboratory building,  
Kalyani Platina  
Campus, Sy.no.129/4,  
EPIP Zone, Phase II,  
Whitefield,  
Bangalore - 560 066  
P:91-80-41384400

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Location (b)

UL India Pvt Limited,  
413 Sector-8, IMT  
Manesar, Gurgaon.  
P:91-124-4215707

**TEST DISCIPLINE: PHOTOMETRY****General details**

<b>Customer / Applicant</b>	M/s. IDEAL LIGHTING SYSTEMS PVT LTD PLOT NO 209/9, GEB OFFICE ROAD, GIDC ANKLESHWAR, GUJARAT - 393002		
<b>Manufacturer</b>	M/s. IDEAL LIGHTING SYSTEMS PVT LTD		
<b>Program</b>	NABL		
<b>Test Lab Location</b>	(b) UL Manesar	Refer to Cover page for the UL address	
<b>Item Under Test</b>	LED WEATHER PROOF HIGH BAY		
<b>Model</b>	ILS WP HB 150W		
<b>Number of Samples</b>	1		
<b>UL Sample Identification</b>	2255112	Refer Summary of Test results for multiple samples	
<b>Manufacturer Serial Number (if any)</b>	5110703		
<b>Condition of IUT on receipt</b>	Good		
<b>Date of Receipt</b>	24 November 2015		
<b>Applicable Standard</b>	IES LM 79-08		
<b>Date of Testing (Start date)</b>	25 November 2015	<b>End Date</b>	25 November 2015
<b>UL general^ ambient condition</b>	<b>Temperature in °C</b>	23 ± 5°C	
	<b>Relative humidity in %</b>	< 70%	
<b>Date of Reporting</b>	14 December 2015		
<b>Test In-charge</b>	Navin Kumar Maurya		

# Fill in the rows with information or add hyphen (-)

  Ajay Kumar Patidar Engineer Project Associate	  Satish Kumar Engineering Leader
<b>Reviewed by</b>	<b>Authorized signatory</b>

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**General Remarks (If any)****Description of Item under Test (IUT)**

Sample Catalogue No.: ILS WP HB 150W

Rated voltage: 240V AC, Frequency: 50Hz, Rated Input Current: 0.66A, Rated Input Power Factor :>0.95  
Rated Input Power: 150±2W

The sample of LED Luminaire tested was with LED Lense.

LED Specification:

LED Make / Model: Citizen Japan , No of LEDs: 01

LED Driver Specification :

Driver Make: Meanwell Taiwan , No of Drivers: 01

**Summary of Test Results**

Test No.	Test Parameter	Standard & Clause Number	UL Sample Identification	Result
1	Electrical and Photometric measurements	IES LM 79-08, Clause number 8, 9, 10 and 11	2255112	Evaluate by customer
2	Colorimetric measurements	IES LM 79-08, Clause number 12		Evaluate by customer


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**Test No.01 Electrical and Photometric measurements**

**Master Equipment and Calibration details**

Serial No.	Test Equipment	UL Equipment ID	Calibration status (Valid up to)
1	Goniophotometer	GON02	Before use
2	Measured standard lamp	SL06	13.05.2016
3	Measured standard lamp	SL07	13.05.2016
4	Digital Power Meter	PM16	23.07.2016

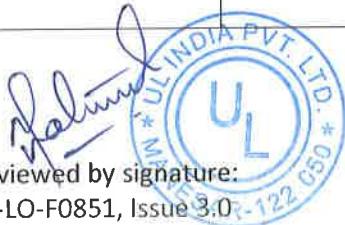
**Test methodology adopted**

- The sample was tested according to the IES LM-79-2008.
- The condition of the sample tested was new. Stabilization time before testing was 54 minutes.
- Orientation (burning position) of SSL product during testing was its normal burning position i.e. at zero degree inclination to horizontal.
- Electrical measurements were obtained with a Yokogawa WT210 digital power meter.
- Photometric parameters were obtained using a Type-C Goniophotometer and software. Photometric distance was more than five times of the largest dimension of the test sample.
- The ambient temperature was maintained at  $(25 \pm 1)^\circ\text{C}$  during testing.
- The sample was operated at 240 Volts AC. It was stabilized before measurement. Luminous flux, luminous efficacy, zonal lumen were calculated from the software.

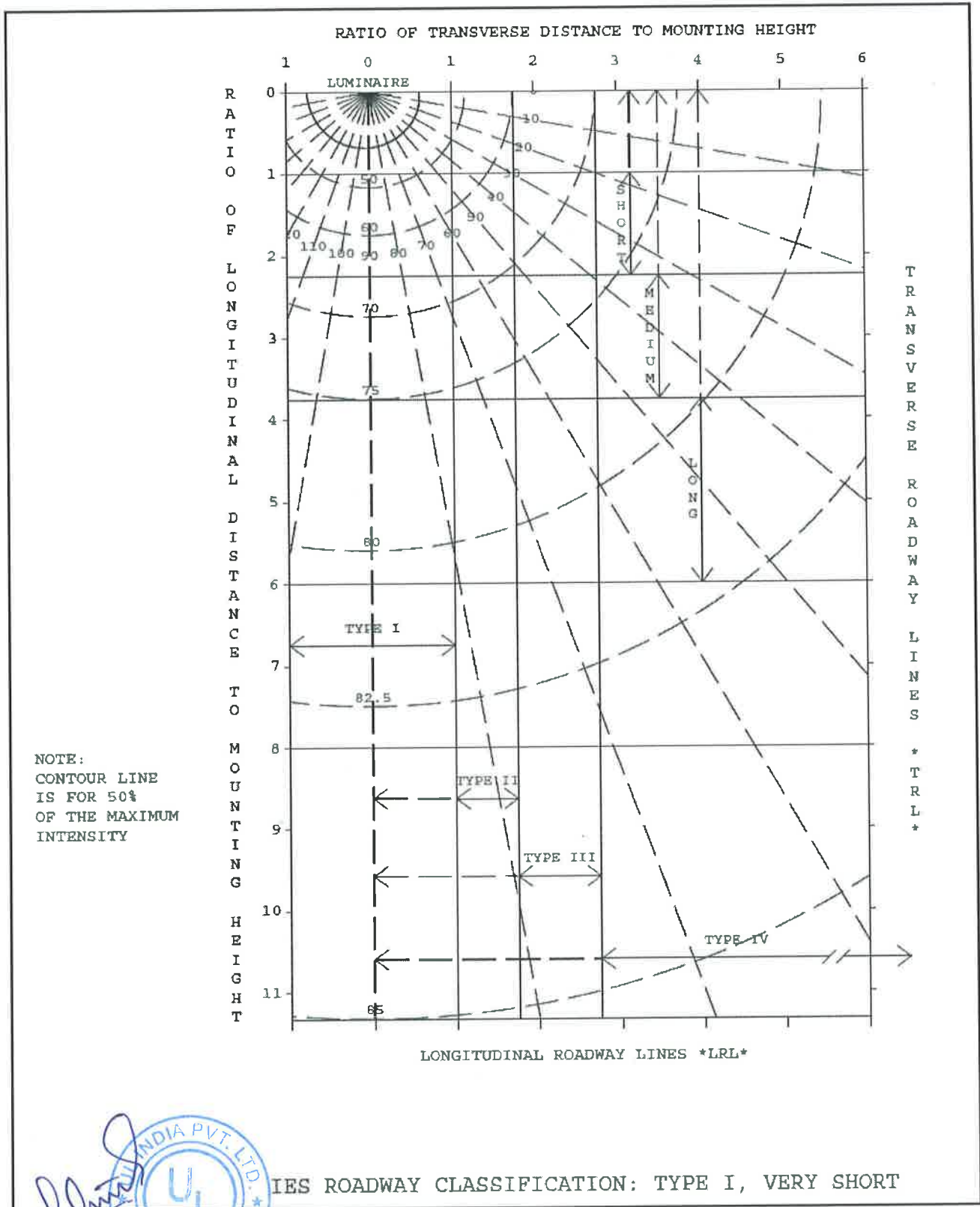
**Test Observation**

INPUT PARAMETER				
Voltage (V)	Frequency (Hz)	Current (A)	Power (W)	Power Factor
239.96	50.00	0.6464	149.94	0.97
OUTPUT PARAMETER				
Flux (lm)	Efficacy (lm/W)			
15393.0	102.7			

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**RATIO OF TRANSVERSE DISTANCE TO MOUNTING HEIGHT:**



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## UTILIZATION TABLE:

## CO-EFFICIENT OF UTILIZATION

RATIO	HOUSE SIDE	STREET SIDE	TOTAL
0.5	0.417	0.392	0.809
1.0	0.530	0.459	0.989
1.5	0.536	0.461	0.996
2.0	0.536	0.461	0.997
2.5	0.536	0.461	0.997
3.0	0.536	0.461	0.997
3.5	0.537	0.461	0.997
4.0	0.537	0.461	0.997
5.0	0.537	0.461	0.997
TOTAL:	0.537	0.461	0.997

## PERCENTAGE OUTPUTS

DOWNWARD:	STREET SIDE =	46.1%
	HOUSE SIDE =	53.7%
	TOTAL =	99.7%
UPWARD:	STREET SIDE =	0.1%
	HOUSE SIDE =	0.1%
	TOTAL =	0.3%

EFFICACY (LUMENS PER WATT) 102.7

THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN. LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA



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**ZONAL LUMEN SUMMARY PER IES PUBLICATION TM-15-07:****FORWARD LIGHT:**

LUMENS	7095.0
‡ LUMENS	46.1 ‡
FORWARD LOW ZONE (0 TO 30 DEGREES)	34.7 ‡
FORWARD MID ZONE (30 TO 60 DEGREES)	11.3 ‡
FORWARD HIGH ZONE (60 TO 80 DEGREES)	0.0 ‡
FORWARD VERY HIGH ZONE (80 TO 90 DEGREES)	0.0 ‡

**BACK LIGHT:**

LUMENS	8258.9
‡ LUMENS	53.7 ‡
BACK LIGHT LOW ZONE (0 TO 30 DEGREES)	35.8 ‡
BACK LIGHT MID ZONE (30 TO 60 DEGREES)	17.8 ‡
BACK LIGHT HIGH ZONE (60 TO 80 DEGREES)	0.1 ‡
BACK LIGHT VERY HIGH ZONE (80 TO 90 DEGREES)	0.0 ‡

**UPLIGHT:**

LUMENS	38.8
‡ LUMENS	0.3 ‡
UPLIGHT LOW ZONE (90 TO 100 DEGREES)	0.0 ‡
UPLIGHT HIGH ZONE (100 TO 180 DEGREES)	0.3 ‡

**TRAPPED LIGHT: NOT APPLICABLE TO AN ABSOLUTE TEST**


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**IES "BUG" RATING (BACK LIGHT, UPLIGHT, GLARE) PER ADDENDUM TO IES  
TM-15-11:**

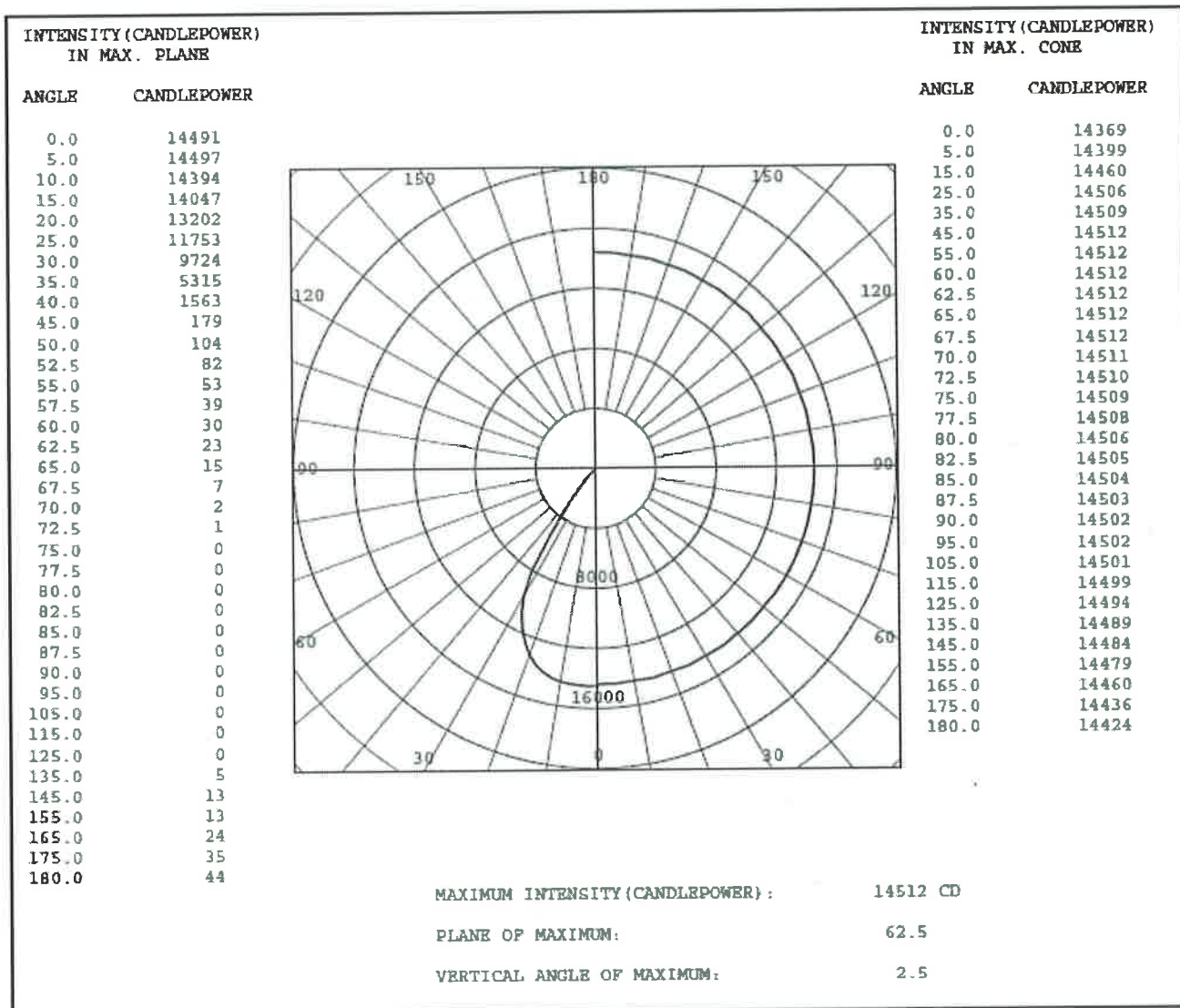
	LUMENS	SECONDARY SOLID ANGLE RATING
<b>BACK LIGHT</b>		
BH (60-80 DEGREES)	13.4	B0
BM (30-60 DEGREES)	2738.8	B3
BL (0-30 DEGREES)	5506.6	B5
<b>UPLIGHT</b>		
UH (100-180 DEGREES)	38.8	U2
UL (90-100 DEGREES)	0.0	U0
<b>GLARE LIGHT</b>		
FVH (80-90 DEGREES)	0.0	G0
BVH (80-90 DEGREES)	0.1	G0
FH (60-80 DEGREES)	7.4	G0
BH (60-80 DEGREES)	13.4	G0

IES BUG RATING: B5 U2 G0





**LUMINOUS INTENSITY DATA:**



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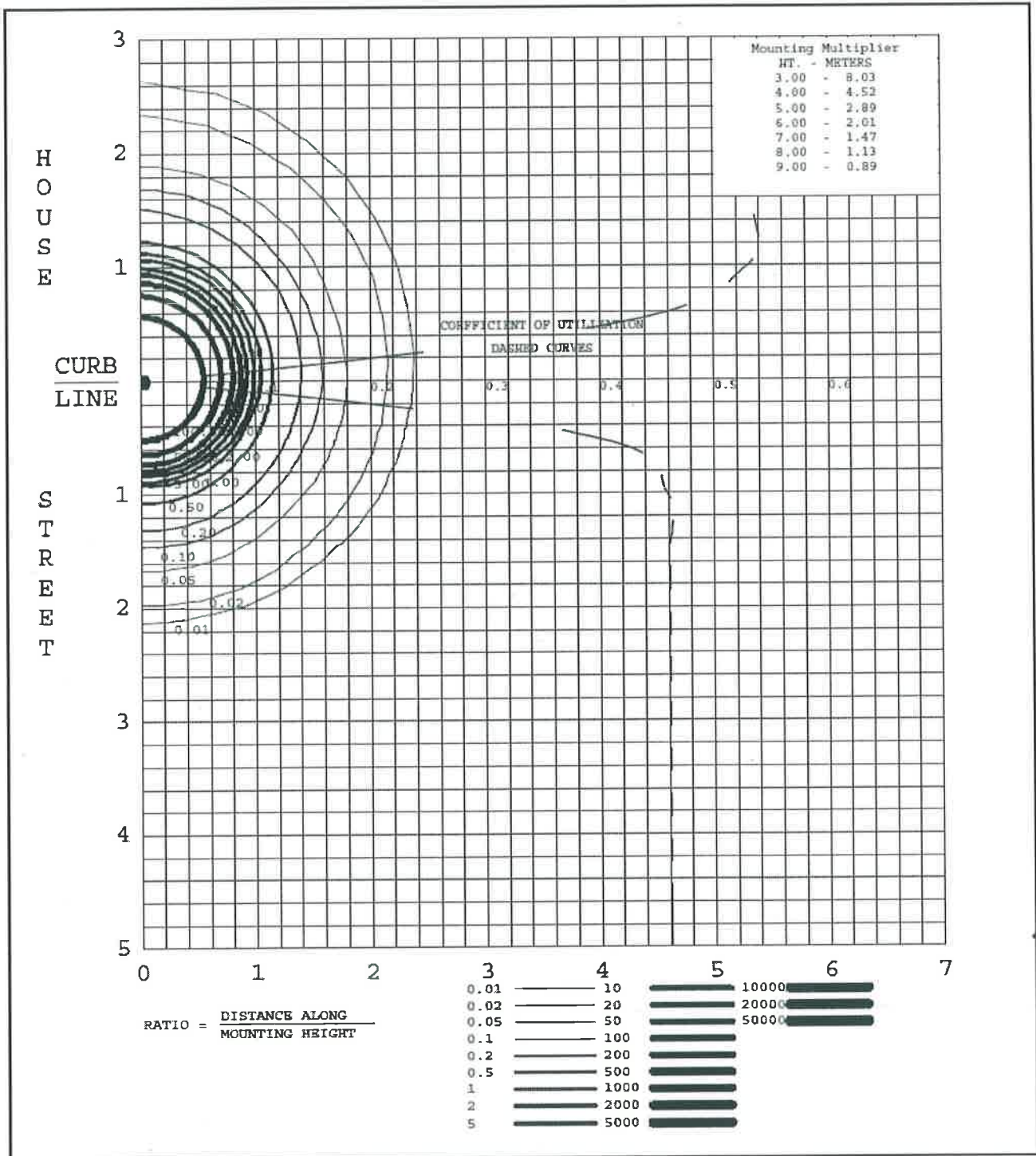
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**INTENSITY (CANDLEPOWER) SUMMARY:**

VERT. ANGLE	HORIZONTAL ANGLES - STREET SIDE										
	0.0	5.0	15.0	25.0	35.0	45.0	55.0	62.5	65.0	75.0	85.0
	****										
0.0	14491	14491	14491	14491	14491	14491	14491	14491	14491	14491	14491
2.5**	14369	14399	14460	14506	14509	14512	14512	14512	14512	14509	14504
5.0	14351	14383	14445	14493	14495	14498	14497	14497	14496	14493	14488
10.0	14193	14237	14325	14390	14390	14389	14392	14394	14395	14394	14392
15.0	13763	13818	13929	14012	14015	14017	14034	14047	14051	14065	14079
20.0	12726	12805	12964	13090	13116	13142	13176	13202	13211	13256	13304
25.0	11136	11227	11410	11560	11609	11659	11713	11753	11766	11841	11923
30.0	8760	8883	9129	9334	9416	9498	9627	9724	9757	9895	10035
35.0	3354	3541	3915	4255	4495	4734	5066	5315	5398	5796	6216
40.0	685	745	863	983	1104	1226	1419	1563	1612	1832	2061
45.0	133	136	140	144	148	152	168	179	183	221	267
50.0	88	90	93	96	98	99	102	104	105	107	110
55.0	41	43	45	47	49	50	52	53	54	58	63
60.0	24	24	25	25	26	27	28	30	30	32	33
65.0	8	8	9	10	11	12	14	15	15	17	18
70.0	1	1	1	1	2	2	2	2	2	3	4
75.0	0	0	0	0	0	0	0	0	1	1	1
80.0	0	0	0	0	0	0	0	0	0	0	0
85.0	0	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0	0
	HORIZONTAL ANGLES - HOUSE SIDE										
	90.0	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0	175.0	180.0
0.0	14491	14491	14491	14491	14491	14491	14491	14491	14491	14491	14491
2.5**	14502	14502	14501	14499	14494	14489	14484	14479	14460	14436	14424
5.0	14486	14483	14478	14471	14464	14457	14452	14446	14437	14427	14422
10.0	14391	14389	14383	14376	14365	14354	14354	14353	14369	14391	14403
15.0	14085	14085	14084	14084	14083	14081	14088	14095	14135	14187	14213
20.0	13329	13341	13365	13390	13417	13444	13461	13479	13546	13630	13672
25.0	11963	11994	12055	12116	12177	12238	12275	12313	12398	12498	12549
30.0	10106	10163	10277	10392	10512	10632	10700	10768	10878	11001	11063
35.0	6426	6622	7014	7378	7660	7941	8101	8261	8472	8700	8813
40.0	2176	2304	2561	2821	3094	3366	3572	3778	3928	4061	4127
45.0	290	327	402	482	576	669	737	804	860	912	938
50.0	112	114	118	123	129	135	139	144	148	152	154
55.0	66	69	74	79	82	86	88	90	94	98	101
60.0	33	33	32	33	36	39	43	46	47	47	47
65.0	19	19	21	22	23	24	25	26	26	27	27
70.0	4	5	6	6	7	8	9	10	11	11	12
75.0	1	1	1	1	1	2	2	2	2	2	2
80.0	0	0	0	0	0	0	0	0	0	0	1
85.0	0	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0	0

\*\* DENOTES VERTICAL ANGLE OF MAXIMUM CONE  
 \*\*\*\* DENOTES LATERAL ANGLE OF MAXIMUM PLANE  
 INTENSITY WAS MEASURED IN 2.5 DEGREE STEPS - TABULATIONS ARE AVAILABLE

**MOUNTING HEIGHT FOR ISOLUX 8.5 METERS:**



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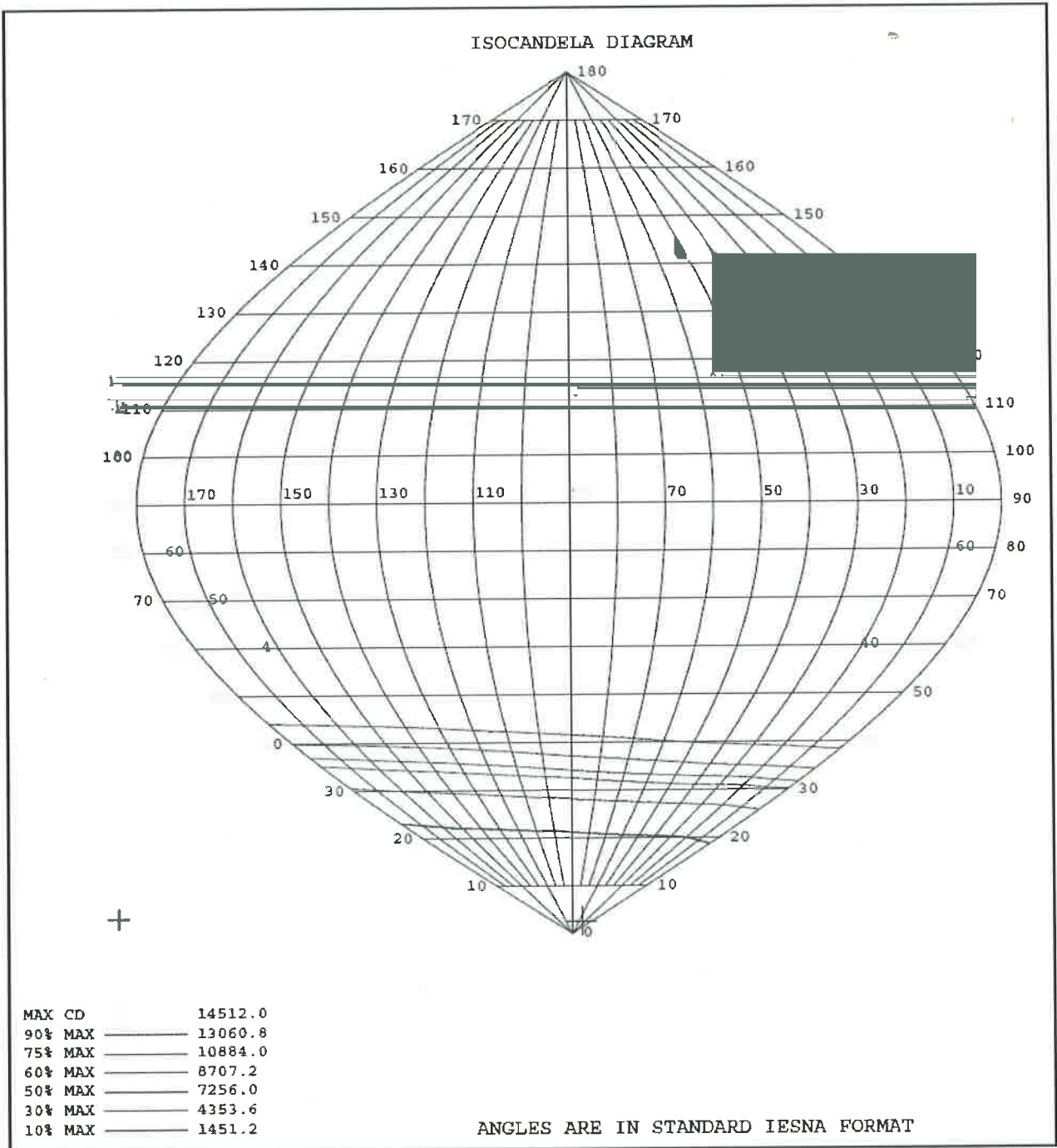
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INDIA PVT. LTD.  
MAHAR-122 050

LUX TABLE FOR SINGLE LUMINAIRE AT 8.5 METERS:

LATERAL RATIOS	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
-3.00	+ .003	+ .003	+ .002	+ .001	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
-2.50	+ .013	+ .011	+ .007	+ .003	+ .001	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
-2.00	+ .038	+ .033	+ .022	+ .011	+ .004	+ .001	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
-1.50	+ 0.20	+ 0.14	+ .062	+ .027	+ .010	+ .003	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
-1.00	+ 4.5	+ 0.96	+ 0.23	+ .054	+ .019	+ .004	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
-0.50	+ 119	+ 58	+ 0.72	+ 0.10	+ .027	+ .006	+ .001	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
HOUSE			CURB LINE												
STREET	200	113	1.4	0.13	.029	.006	.001	.000	.000	.000	.000	.000	.000	.000	.000
0.50	+ 104	+ 33	+ 0.49	+ .087	+ .023	+ .005	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
1.00	+ 0.65	+ 0.45	+ 0.14	+ .042	+ .012	+ .002	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
1.50	+ .083	+ .066	+ .038	+ .014	+ .004	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
2.00	+ .017	+ .015	+ .008	+ .003	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
2.50	+ .002	+ .002	+ .001	+ .001	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
3.00	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
3.50	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
4.00	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
4.50	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
5.00	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000	+ .000
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
	LONGITUDINAL MOUNTING HEIGHT RATIOS														
	CORRECTION FACTORS FOR OTHER MOUNTING HEIGHTS: SEE ISOLUX PAGE														



**ISOCANDELA DIAGRAM:**



*[Signature]*  
INDIA PVT. LTD.  
UL  
MANUFACTURED IN INDIA  
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### Master Equipment and Calibration details

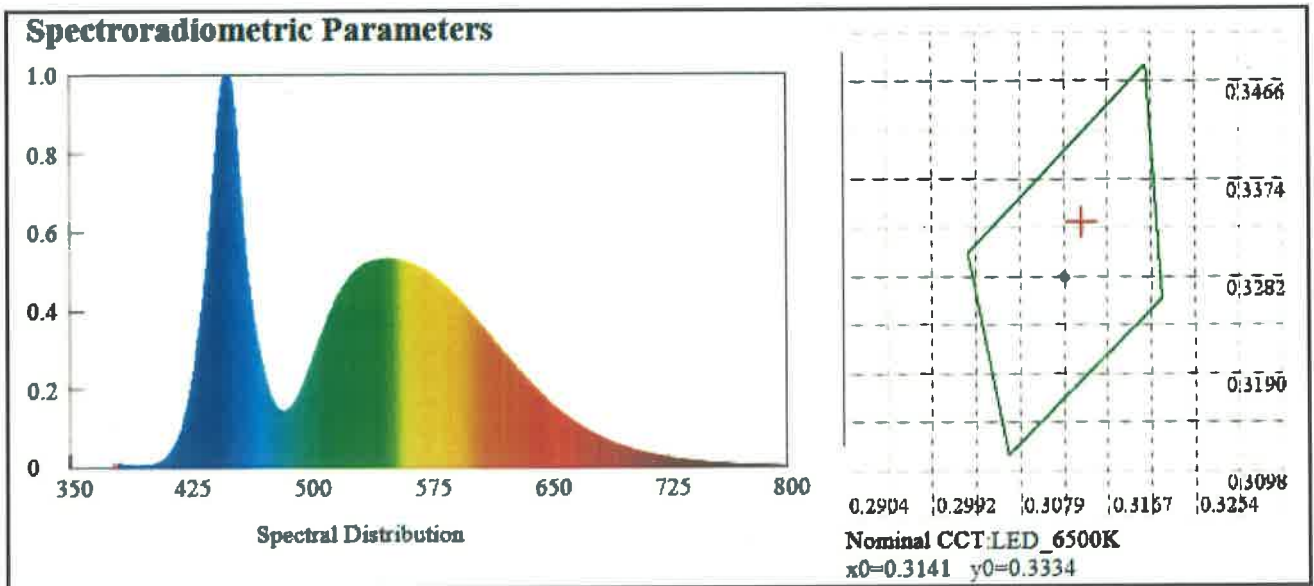
		UL Equipment ID	Calibration status (Valid up to)
1	Integrating Sphere	TIS 02	Before use
2	Measured standard lamp	WSL 09	14.04.2016
3	Power Meter	PM 12	23.07.2016

- The sample was tested according to the IES LM-79-2008.
- Orientation (burning position) of SSL product during testing was its normal burning position i.e. at zero degree inclination to horizontal.
- Colorimetric parameters were measured using an integrating sphere, a spectroradiometer and software. 4π geometry was used.
- The ambient temperature was maintained at  $(25 \pm 1)^\circ \text{C}$  during testing.
- The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 240 Volts AC. It was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 350 to 800nm.

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**Test Observation**



**Spectral Distribution**

Chromaticity Coordinates:  $x=0.3141$   $y=0.3334$   $u'=0.1972$   $v'=0.4709$

Correlated Color Temperature: 6400 K

Dominant Wavelength: 491.0 nm(E)

Purity: 0.0655

Chromaticity Difference: +0.00475Duv

Peak Wavelength: 451.1 nm

Color Ratio: Kr=29.0% Kg=60.8% Kb=10.2%

Bandwidth: 24nm

Radiant Flux: 36.203 W

Rendering Index: Ra=73.9

R1=71 R2=78 R3=81 R4=74 R5=72 R6=69 R7=84 R8=63

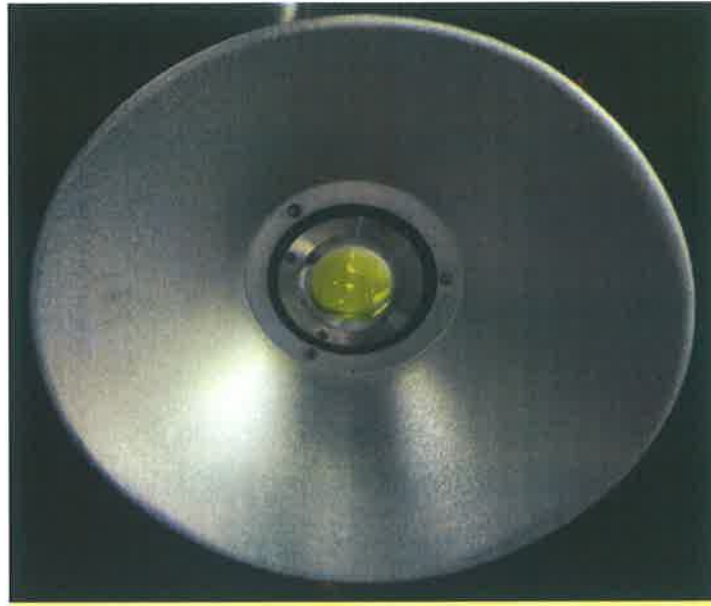
R9=-22 R10=46 R11=70 R12=42 R13=73 R14=89 R15=68



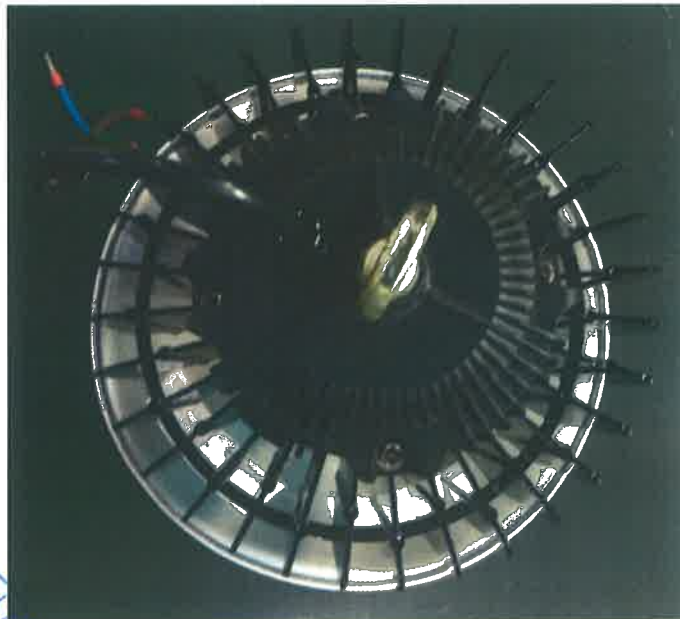
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**Appendix**

**Photographs**



**Front View**

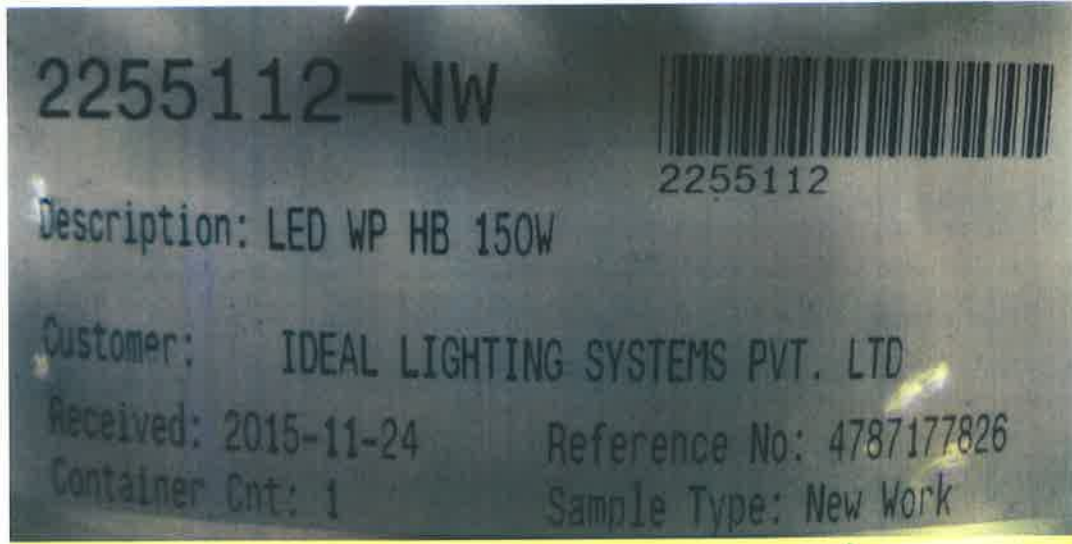


**Rear View**

*Mahmud*  
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MANESAR-122 050

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Sample ID

\*\*\*\*\*End of Report\*\*\*\*\*



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