

# TEST REPORT

Test Report No	22.11.23.03
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Date of Receipt	23.11.2022
Date(s) of Performance	24.11.2022
Date of issue	24.11.2022
Test Location	At Lab
Name of Customer	Leo Lights
Address of Customer	Om Industrial Estate, Vadolgaon, Behind Gnp Galaxy Mall, Near Reliance Petrol Pump Ambernath(W)
Name of Manufacturer	Leo Lights
Brand Name	--
Name of Sample/ Model No./ Sample No.	20W LED Streetlight
Product Rating	230Vac, 50Hz, 20W
No. of Sample Tested	1
Sample Condition	Good

## Declaration,

1. The results of testing in this report apply only to the sample product/item, which was tested.
2. EAMP Laboratories has not participated in the sample selection.
3. This Test Report shall not be reproduced wholly or in part without the prior written approval of the EAMP Laboratories.
4. Client has to make arrangement for taking back the sample **within one week** after the issue of the test report. After this period EAMP Laboratories reserves the right to dispose the Item.

## Additional Info

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**Name of Test: Photometry & Colorimetry Test Report**

<b>Applicable Test Standards or Test Methods</b>	IES LM 79: 2008, Cl. No.9, 10 & 11
	IS 16106: 2012, Cl. No. 11, 12 & 13

<b>Test Date(s)</b>	24.11.2022
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**Equipment and Calibration Details**

Sr. No.	Name of Instruments	Lab ID No.	Due Date	Traceable to
1	Moving Mirror Type C Goniophotometer GMS 3000	EAMP-E-001	11.02.2023	CSIR-NPL, New Delhi
2	Halolux Ceram Standard Lamp 230Vac, 150W E27	EAMP-SL-001	27.06.2023	ERDA, Vadodara
3	Spectral Standard Lamp 30Vdc, 6A E-27	EAMP-SL-002	27.06.2023	ERDA, Vadodara

**Possible Test Case Verdicts**

<b>Test case does not applied to SUT</b>	NA
<b>Test case does meet the requirements</b>	P (Pass)
<b>Test case does not meet the requirements</b>	F (Fail)
<b>SUT</b>	Sample under Test

**Environmental Contions**

Ambient Temperature (°C)	Relative Humidity (%RH)	Air Pressure (hPa)
25.4°C	47.0%	--

**Marking Label:**

NA

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### 1.1. Test Details:

No. of Hours operated prior to measurement	0 Hrs
Total Operating time of product for measurement including stabilization	78 Minutes
Orientation (burning position) of SSL product during test	Normal Burning Position
Photometric Distance of Goniophotometer	20.80m

Rated Electrical Values and Nominal CCT				
Voltage	Current	Power	Frequency	CCT
230Vac	--	20W	50Hz	--
Light Source			Driver / Ballast	
Make/Specifications	Quantity	Make/Specifications	Quantity	
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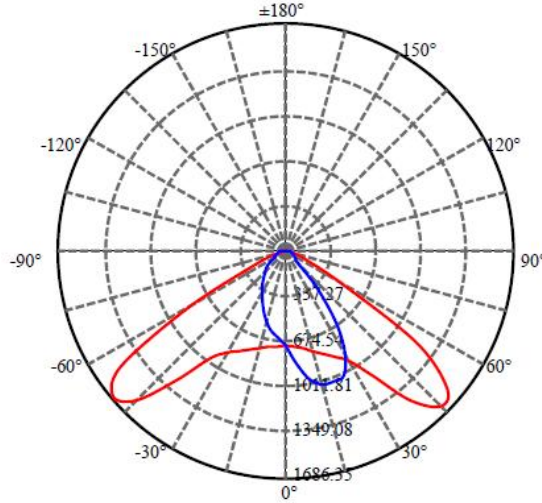
### 1.2. Test Observation

S. No	Parameters	Units	Results
<b>Electrical Parameters</b>			
1	Voltage	Vac	230.15
2	Current	A	0.0820
3	Power	W	18.70
4	Power Factor		0.9885
5	Frequency	Hz	50
<b>Photometric Parameter</b>			
1	Luminous Flux	lm	2346.49
2	Luminous Efficacy	lm/W	125.48
3	Luminous Intensity (Central)	cd	1686.352
4	Luminous Intensity (Maximum)	cd	701.011
5	Beam Angle	°	126.04

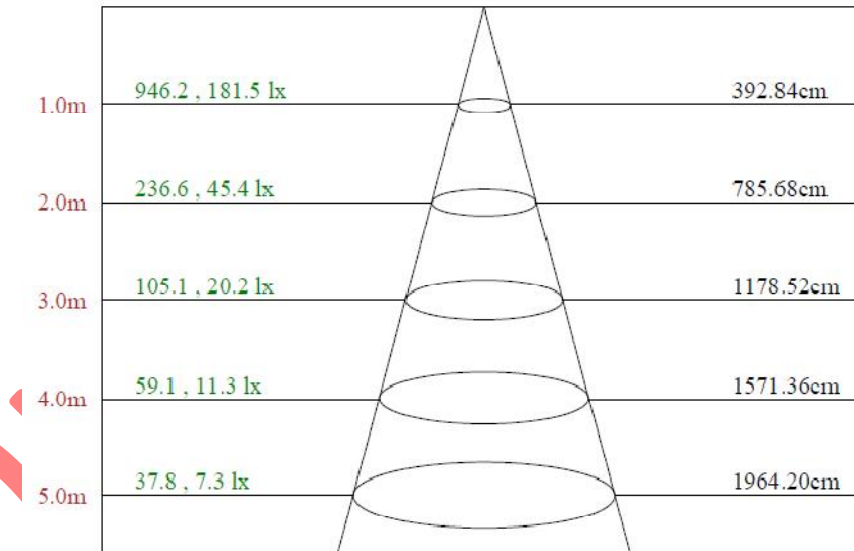
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**Photometric Graphs**

**Light Distribution Curve**



**Lux distance Curve**



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Intensity Data													
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	55.0	
0.0	701.01	708.15	730.00	767.01	816.06	861.10	940.48	1130.45	1439.48	1632.57	1562.56	1181.73	
22.5	701.01	771.97	848.35	947.79	1060.33	1124.96	1184.62	1244.28	1439.08	1584.62	1393.89	904.40	
45.0	701.01	805.63	915.16	1022.46	1106.95	1152.56	1158.81	1128.86	961.21	724.26	428.74	170.34	
67.5	701.01	826.47	955.52	1049.94	1073.78	1082.32	1020.27	812.98	505.41	206.84	102.07	91.28	
90.0	701.01	831.04	964.23	1026.77	1033.97	1022.72	885.49	649.72	360.40	135.43	96.74	89.54	
112.5	701.01	821.26	950.62	1038.99	1064.50	1067.69	997.09	807.14	493.30	216.82	104.31	91.56	
135.0	701.01	797.86	909.19	1002.87	1089.31	1135.92	1154.47	1130.49	968.47	714.14	428.12	181.02	
157.5	701.01	758.10	820.66	906.06	1024.34	1097.87	1148.56	1182.36	1291.05	1455.46	1465.50	1095.13	
180.0	701.01	706.81	719.29	746.50	781.73	812.05	866.45	969.46	1254.42	1558.55	1666.91	1476.49	
202.5	701.01	668.47	658.98	657.62	649.49	659.43	672.54	683.38	720.45	805.87	839.77	739.88	
225.0	701.01	654.07	628.59	604.00	566.44	523.08	473.90	419.36	361.68	302.67	254.38	202.97	
247.5	701.01	648.85	607.93	563.87	506.31	436.61	375.91	326.00	272.04	218.98	178.51	139.39	
270.0	701.01	645.22	605.17	547.58	480.99	406.75	350.06	299.66	247.47	208.32	175.93	142.63	
292.5	701.01	645.90	623.12	564.36	541.13	394.01	374.42	317.03	297.90	232.30	173.54	136.19	
315.0	701.01	653.04	624.53	605.52	577.92	536.73	495.10	439.89	391.46	333.99	278.78	226.28	
337.5	701.01	680.00	674.52	674.52	680.92	687.31	703.29	736.63	806.51	907.89	839.39	651.69	
360.0	701.01	708.15	730.00	767.01	816.06	861.10	940.48	1130.45	1439.48	1632.57	1562.56	1181.73	
C/γ(°)	60.0	65.0	70.0	75.0	80.0	85.0	90.0	95.0	100.0	105.0	110.0	115.0	
0.0	469.57	163.21	77.59	50.39	25.42	12.04	7.13	6.24	2.23	0.89	0.89	1.78	
22.5	342.14	145.99	81.36	55.14	29.83	14.01	8.59	4.52	1.81	0.45	0.90	1.36	
45.0	102.83	76.00	58.57	38.90	22.35	12.97	7.15	3.58	0.89	0.45	0.45	0.45	
67.5	79.14	62.05	51.26	41.82	27.88	16.19	8.09	3.15	1.35	0.45	0.45	0.00	
90.0	76.49	70.19	58.49	41.84	29.70	17.55	13.50	16.65	13.05	0.00	0.45	0.45	
112.5	78.35	60.58	51.02	41.45	29.61	16.40	9.11	3.64	2.28	0.91	0.46	0.46	
135.0	105.90	77.39	56.57	39.83	23.08	13.12	7.69	4.07	1.36	0.45	0.45	0.45	
157.5	528.84	192.26	93.62	58.46	34.25	15.53	7.76	5.02	1.83	0.46	0.91	1.37	
180.0	834.79	255.97	101.23	65.11	33.45	14.72	7.58	6.24	4.01	0.89	0.89	1.34	
202.5	530.17	341.24	210.17	112.54	47.91	20.79	9.94	4.07	1.36	0.45	0.90	0.90	
225.0	159.61	127.42	98.80	69.30	40.68	17.88	10.73	5.81	0.89	0.00	0.45	0.45	
247.5	108.82	75.54	60.25	47.66	35.52	22.93	11.24	2.70	0.45	0.00	0.00	0.00	
270.0	92.69	90.89	85.04	69.74	51.74	40.04	2.25	0.00	0.00	0.00	0.00	0.45	
292.5	111.60	77.43	60.58	57.39	23.69	22.32	10.48	7.74	0.46	0.00	0.00	0.46	
315.0	179.21	141.65	99.56	59.29	33.04	17.65	10.41	5.43	0.91	0.00	0.45	0.45	
337.5	437.05	283.14	168.97	83.12	36.99	18.72	9.13	3.65	0.91	0.46	0.46	0.91	
360.0	469.57	163.21	77.59	50.39	25.42	12.04	7.13	6.24	2.23	0.89	0.89	1.78	
C/γ(°)	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
0.0	3.12	3.57	4.01	3.57	3.12	2.68	2.68	2.23	2.23	2.23	1.78	1.78	1.78
22.5	1.81	2.26	2.26	2.71	1.81	2.26	2.26	2.26	1.81	1.81	1.81	1.36	1.81
45.0	0.45	0.89	0.89	0.89	0.89	1.34	1.34	1.34	1.34	1.79	1.34	1.79	1.79
67.5	0.45	0.45	0.45	0.45	0.90	0.90	1.35	1.35	1.35	1.35	2.25	1.80	1.80
90.0	0.45	0.45	0.45	0.45	0.90	0.90	1.35	1.35	1.35	1.80	1.80	1.35	1.80
112.5	0.46	0.46	0.91	0.91	0.91	1.37	1.37	1.82	1.82	1.82	1.82	1.82	1.82
135.0	0.91	0.91	1.36	1.36	1.81	1.81	2.26	2.26	2.26	2.26	1.81	1.81	1.81
157.5	1.37	2.28	2.74	2.74	2.74	2.74	2.28	2.74	2.28	2.28	1.83	1.83	1.37
180.0	1.78	2.23	3.12	2.68	2.68	2.23	2.23	2.23	1.78	2.23	1.78	1.34	1.78
202.5	1.36	2.26	2.71	2.71	3.16	2.71	2.71	2.71	2.71	2.26	2.26	1.81	1.81
225.0	0.89	0.89	1.79	2.24	2.24	2.68	2.68	2.68	2.68	2.24	2.24	1.79	1.79
247.5	0.00	0.90	0.90	0.90	2.25	2.70	3.15	3.60	2.70	2.70	2.25	1.80	1.80
270.0	0.00	0.45	0.45	0.90	1.35	1.80	2.25	2.25	2.25	2.25	2.25	1.80	1.80
292.5	0.00	0.46	0.91	0.91	1.37	1.82	2.28	2.28	2.28	2.28	2.28	1.82	1.82
315.0	0.45	0.91	0.91	1.36	1.81	2.26	2.26	2.26	2.26	2.26	1.81	1.81	1.81
337.5	1.83	1.83	1.83	2.74	2.74	2.28	2.74	2.28	2.28	2.28	1.83	1.83	1.37
360.0	3.12	3.57	4.01	3.57	3.12	2.68	2.68	2.23	2.23	2.23	1.78	1.78	1.78

1.3.Conclusion: NA

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### Photographs



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

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