


<b>Test Report No</b> ELN22090286	<b>ULR No.</b> TC576222000000476F	<b>QR Code (Test Report)</b>	<b>QR Code (Certificate)</b>
<b>Date of Receipt</b> 27.09.2022	<b>Page No.</b> Page 1 of 10		
<b>Report Issue Date</b> 01.10.2022	<b>Date(s) of Performance</b> 28.09.2022 To 30.09.2022		
<b>No. of Sample Tested</b> 01	<b>Sample Condition</b> Good		
<b>Name of Customer</b>	Leo Lights		
<b>Address of Customer</b>	Om Industrial Estate, Vadolgaon, Behind Gnp Galaxy Mall, Near Reliance Petrol Pump Ambernath(W)		
<b>Name of Manufacturer</b>	Leo Lights		
<b>Brand Name</b>	--		
<b>Name of Sample/ Model No./ Sample No.</b>	Bent FLDC 002 Flood Light 50W		
<b>Statement of Conformity</b>	NA		
<b>Product Rating</b>	230Vac, 50Hz, 50W		
<b>Test Location</b>	At Lab		
<b>Tested By</b>			
<b>Reviewed By</b>			
<b>Authorised By</b>			
<b>Possible Test Case Verdicts</b>			
<b>Test case does not applied</b>	NA	<b>Test case does meet the requirements</b>	P (Pass)
<b>Test case does not meet the requirements</b>	F (Fail)	<b>Sample under Test</b>	SUT

**MARKING LABEL**

NA

**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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1	Photometry & Colorimetry Test	IES LM 79: 2008	2 of 10
2	Ingress Protection Test	IS 10322 (Part 1): 2014, Cl. No. 9.2	7 of 10
3	Impact test	IEC 62262:2002, Clause No. 6	9 of 10

#### Name of Test: Photometry Test Report

<b>Applicable Test Standards or Test Methods</b>	IES LM 79:2008, Cl No.9, 10, 11 & 12
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<b>Test Date(s)</b>	29.09.2022
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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	Spectroradiometer with Integrating Sphere SL 300	EAMP -E-006	11.02.2023	CSIR-NPL, New Delhi
3	Halolux Ceram Standard Lamp 230Vac, 150W E27	EAMP-SL-001	27.06.2023	ERDA, Vadodara
4	Spectral Standard Lamp 30Vdc, 6A E-27	EAMP-SL-002	27.06.2023	ERDA, Vadodara

Environmental Conditions		
Ambient Temperature (°C)	Relative Humidity (%RH)	Air Pressure (hPa)
25.8°C	47.0%	--

1.1.Test Details:	
<b>No. of Hours operated prior to measurement</b>	0 Hrs
<b>Total Operating time of product for measurement including stabilization</b>	116 Minutes
<b>Orientation (burning position) of SSL product during test</b>	Normal Burning Position
<b>Self-Absorption Factor</b>	1.1635
<b>Sphere Diameter</b>	1.5 mtr
<b>Coating Reflectance</b>	93%
<b>Sphere Geometry</b>	4π
<b>Bandwidth of Spectrometer</b>	380 to 780nm
<b>Photometric Distance of Goniophotometer</b>	20.35m

Rated Electrical Values and Nominal CCT				
Voltage	Current	Power	Frequency	CCT
230VAC	0.24	50W	50Hz	--
Light Source		Driver / Ballast		
Make/Specifications	Quantity	Make/Specifications	Quantity	
--	--	--	--	

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### 1.2. Test Observation

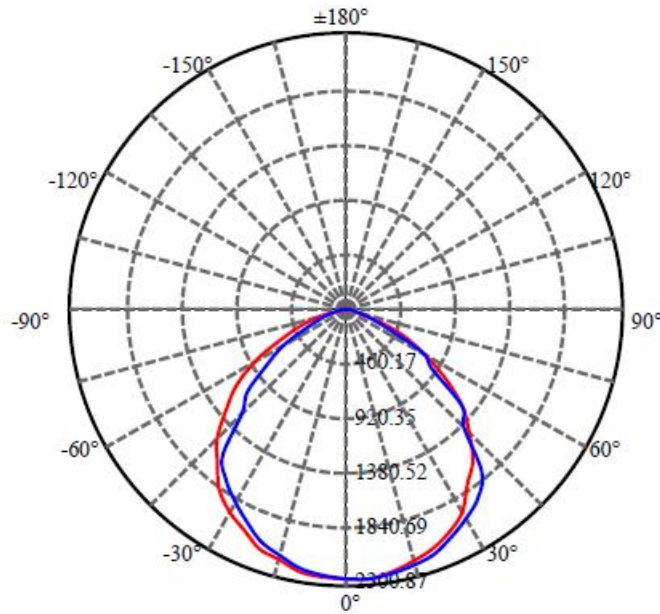
S. No	Parameters	Units	Results	
<b>Electrical Parameters</b>				
1	Voltage	Vac	230.65	
2	Current	A	0.2160	
3	Power	W	49.02	
4	Power Factor		0.9853	
5	Frequency	Hz	50	
<b>Photometric Parameter</b>				
1	Luminous Flux	lm	5571.60	
2	Luminous Efficacy	lm/W	113.66	
3	Luminous Intensity (Maximum)	cd	2300.865	
4	Luminous Intensity (Central)	cd	2248.116	
5	Beam Angle	°	Vert. Spread	Horiz. Spread
			107.2	100.2
<b>Colorimetric Parameter</b>				
1	Correlated Color Temperature	K	6474	
2	Color Rendering Index (Ra)		80.3	
3	Chromaticity Coordinate (x)		0.3121	
4	Chromaticity Coordinate (y)		0.3378	

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**Photometric Graphs**

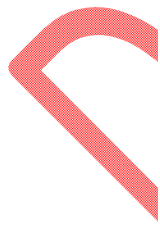
**Light Distribution Curve**



**Lux distance Curve**

**Illuminance at a Distance**

	Center Beam LUX	Beam Width	
		V	H
2m	562.03 LUX	5.4m	4.8m
4m	140.51 LUX	10.8m	9.6m
6m	62.45 LUX	16.3m	14.3m
8m	35.13 LUX	21.7m	19.1m
10m	22.48 LUX	27.1m	23.9m
12m	15.61 LUX	32.5m	28.7m



Vert Spread:107.2

Horiz Spread:100.2

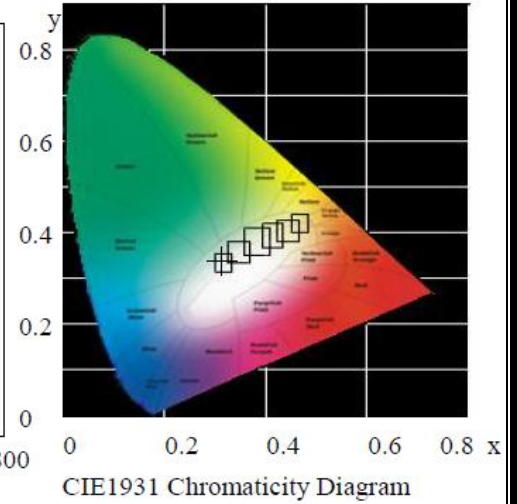
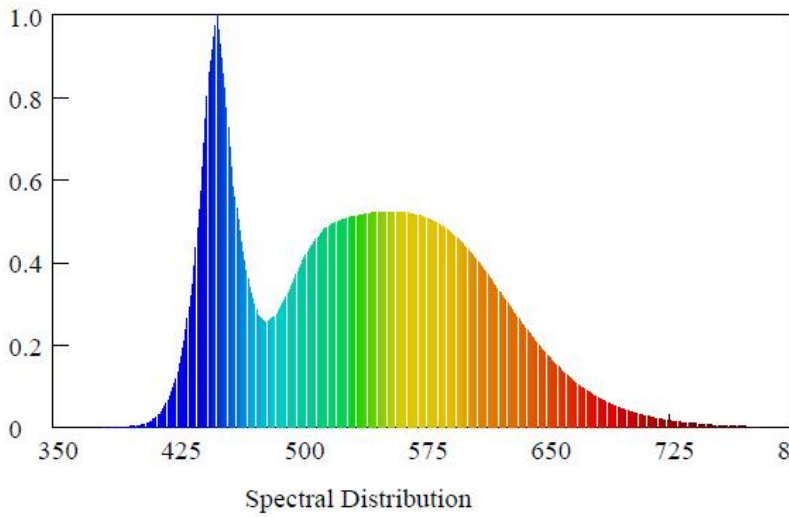
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<b>Intensity Data</b>													
<b>C/γ(°)</b>	<b>0.0</b>	<b>5.0</b>	<b>10.0</b>	<b>15.0</b>	<b>20.0</b>	<b>25.0</b>	<b>30.0</b>	<b>35.0</b>	<b>40.0</b>	<b>45.0</b>	<b>50.0</b>	<b>55.0</b>	
0.0	2248.12	2245.28	2211.29	2172.05	2117.02	2034.07	1943.84	1774.70	1652.50	1461.11	1257.59	1015.62	
22.5	2248.12	2246.48	2233.77	2205.06	2139.05	2080.01	1982.43	1878.69	1701.98	1539.20	1311.64	1112.78	
45.0	2248.12	2249.76	2233.77	2195.64	2145.22	2071.43	2000.51	1893.11	1765.62	1585.65	1301.97	997.80	
67.5	2248.12	2243.99	2234.51	2213.88	2147.48	2078.61	2001.90	1907.87	1795.69	1372.54	1238.92	1040.95	
90.0	2248.12	2251.03	2236.06	2206.11	2160.37	2091.34	2005.67	1912.52	1762.40	1389.37	1257.13	878.29	
112.5	2248.12	2254.43	2241.80	2212.34	2165.20	2099.95	2013.67	1919.80	1815.41	1421.01	1252.65	1095.65	
135.0	2248.12	2245.59	2255.69	2209.81	2160.14	2091.53	2001.04	1895.81	1779.64	1635.26	1427.75	1035.45	
157.5	2248.12	2242.67	2218.38	2184.45	2130.41	2056.69	1974.59	1871.13	1689.75	1548.17	1333.71	1135.16	
180.0	2248.12	2243.26	2211.29	2155.05	2115.40	2023.95	1943.84	1829.73	1762.40	1522.62	1292.38	1102.61	
202.5	2248.12	2242.38	2217.77	2174.31	2102.97	2020.56	1918.87	1801.61	1633.09	1477.29	1259.57	1062.76	
225.0	2248.12	2219.42	2187.03	2134.15	2070.61	1973.05	1857.44	1751.68	1611.48	1472.10	1266.72	906.38	
247.5	2248.12	2214.71	2179.65	2124.39	2062.53	1967.67	1857.14	1737.12	1604.32	1392.75	1071.89	912.69	
270.0	2248.12	2226.49	2185.32	2120.86	2058.90	1957.85	1849.73	1733.29	1595.64	1233.01	1065.84	830.88	
292.5	2248.12	2232.12	2200.13	2148.78	2076.38	1979.15	1879.81	1751.85	1611.27	1416.38	1078.81	924.33	
315.0	2248.12	2228.33	2195.50	2144.99	2076.38	1979.99	1887.81	1769.11	1639.47	1435.75	1261.49	874.66	
337.5	2248.12	2237.64	2203.71	2156.38	2092.29	2018.57	1914.69	1784.00	1628.60	1443.87	1239.88	1030.44	
360.0	2248.12	2245.28	2211.29	2172.05	2117.02	2034.07	1943.84	1774.70	1652.50	1461.11	1257.59	1015.62	
<b>C/γ(°)</b>	<b>60.0</b>	<b>65.0</b>	<b>70.0</b>	<b>75.0</b>	<b>80.0</b>	<b>85.0</b>	<b>90.0</b>	<b>95.0</b>	<b>100.0</b>	<b>105.0</b>	<b>110.0</b>	<b>115.0</b>	
0.0	778.51	555.96	324.51	142.02	37.23	6.07	0.40	0.81	0.81	0.81	1.62	1.62	
22.5	865.13	564.59	328.83	130.79	31.98	5.33	0.41	0.82	0.82	0.82	0.82	1.64	
45.0	807.58	477.99	243.09	95.52	29.52	5.33	0.82	0.41	0.41	0.82	0.82	1.23	
67.5	725.45	419.85	203.32	69.70	29.69	4.12	0.41	0.41	0.41	0.41	0.82	1.24	
90.0	737.73	436.23	215.41	70.28	31.19	4.16	0.83	0.42	0.42	0.83	0.83	1.25	
112.5	740.39	435.23	212.56	74.08	33.67	5.89	0.84	0.42	0.42	0.84	1.26	1.26	
135.0	827.52	506.78	315.69	118.70	36.62	7.16	0.84	0.42	0.84	0.84	0.84	1.26	
157.5	901.01	662.66	359.40	189.75	46.50	9.22	0.84	0.42	0.42	0.84	1.26	1.68	
180.0	858.62	616.65	389.66	183.30	51.39	10.52	0.40	0.40	0.81	0.81	1.21	1.62	
202.5	832.33	605.18	334.98	152.53	47.56	9.43	0.41	0.82	0.82	0.82	1.23	1.64	
225.0	709.61	430.44	245.14	115.19	40.58	6.97	0.41	0.41	0.41	0.82	0.82	1.23	
247.5	608.32	364.58	198.79	87.85	32.58	5.77	0.41	0.41	0.41	0.82	1.24	1.24	
270.0	606.32	369.28	180.07	81.51	29.94	6.24	0.42	0.42	0.42	0.42	0.83	1.25	
292.5	599.39	367.46	192.78	80.82	29.04	5.05	0.42	0.42	0.42	0.84	0.84	1.26	
315.0	694.93	421.34	231.93	101.02	32.41	4.63	0.42	0.42	0.42	0.84	0.84	1.26	
337.5	799.22	564.65	308.71	139.49	33.51	4.61	0.84	0.42	0.84	0.84	0.84	1.26	
360.0	778.51	555.96	324.51	142.02	37.23	6.07	0.40	0.81	0.81	0.81	1.62	1.62	
<b>C/γ(°)</b>	<b>120.0</b>	<b>125.0</b>	<b>130.0</b>	<b>135.0</b>	<b>140.0</b>	<b>145.0</b>	<b>150.0</b>	<b>155.0</b>	<b>160.0</b>	<b>165.0</b>	<b>170.0</b>	<b>175.0</b>	<b>180.0</b>
0.0	2.02	2.43	2.83	3.24	3.64	3.24	3.64	3.64	4.05	4.05	4.05	4.45	4.86
22.5	1.64	2.05	2.46	2.87	2.87	3.69	3.28	3.69	3.69	3.69	4.51	4.10	4.92
45.0	1.64	2.05	2.46	2.46	2.87	3.28	3.28	3.69	3.69	4.10	4.10	4.51	4.51
67.5	1.65	2.06	2.47	2.89	3.30	3.30	3.30	3.71	3.71	3.71	4.12	4.12	4.54
90.0	1.25	1.66	2.08	2.91	3.33	3.33	3.74	3.74	3.74	3.74	4.16	4.16	4.57
112.5	1.68	2.10	2.53	2.95	2.95	3.37	3.37	3.79	3.79	4.21	4.63	4.63	4.63
135.0	1.68	1.68	2.53	2.53	2.95	3.37	3.37	3.79	3.79	4.21	4.21	4.63	4.63
157.5	2.09	2.09	2.51	2.93	2.93	3.35	3.35	3.77	3.77	3.77	4.19	4.19	4.61
180.0	1.62	2.02	2.83	2.83	2.83	3.24	3.24	4.05	4.05	4.05	4.45	4.05	4.86
202.5	2.05	2.05	2.46	2.87	3.28	3.28	3.69	3.69	3.69	4.10	4.51	4.51	4.92
225.0	1.64	2.05	2.46	2.87	3.28	3.69	3.69	3.69	4.10	4.10	4.51	4.10	4.51
247.5	1.65	2.06	2.47	2.89	3.71	3.30	4.12	3.71	4.12	4.12	4.12	4.12	4.54
270.0	1.66	2.08	2.50	2.91	2.91	3.33	3.74	3.74	4.16	4.16	4.16	4.16	4.57
292.5	1.68	2.10	2.53	2.95	2.95	3.37	3.79	4.21	4.21	4.21	4.21	4.21	4.63
315.0	1.68	2.10	2.53	2.53	3.37	3.79	3.79	4.21	4.21	4.21	4.21	4.21	4.63
337.5	1.68	2.51	2.51	2.51	3.35	3.35	3.77	4.19	4.19	4.19	4.19	4.19	4.61
360.0	2.02	2.43	2.83	3.24	3.64	3.24	3.64	3.64	4.05	4.05	4.05	4.45	4.86

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**Colorimetric Graphs**

**Spectroradiometric Parameters**



**1.3.Conclusion: NA**

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**Name of Test: Ingress Protection Test Report**

<b>Applicable Test Standards or Test Methods</b>	IS 10322 (Part 1): 2014, Cl. No. 9.2 IS 10322 (Part 5/ Sec 3): 2013, Cl. No. 14
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<b>Test Discipline</b>	Electrical	<b>Test Group</b>	Lamps, Luminaires and Accessories
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<b>Test Date(s)</b>	30.09.2022
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**Equipment and Calibration Details**

Sr. No.	Name of Instruments	Lab ID No.	Due Date	Traceable to
1	IP 5X6X Chamber (Measuring Scale)	EAMP-E-072	21.05.2023	BICL, Kalyan
	IP 5X6X Chamber (Test Sieves)		09.04.2023	G&B, Mumbai
	IP 5X6X Chamber (Flow Totalizer)		17.11.2022	E. I. Noida
2	IP X6 Water Jet Nozzle	EAMP-E-138	12.11.2022	Tanson Instrument

**Environmental Conditions**

Ambient Temperature (°C)	Relative Humidity (%RH)	Air Pressure (hPa)
26.5°C	48%	-

**1.1 Test Details:**

Characteristic Numeral	Degree of Protection as IS 10322 (Part 5/ Sec 3): 2013		Remark
	Brief Description	Cl. No	
Degree of protection against Solid Foreign Objects ( <b>First Characteristic Numeral:IP6X</b> )			
0	Not Protected	-	-
2	Solid-Object-Proof Luminaires	9.2.0	-
3	Solid-Object-Proof Luminaires	9.2.0	-
4	Solid-Object-Proof Luminaires	9.2.0	-
5	Dust Proof Luminaires	9.2.1	-
6	Dust Tight Luminaires	9.2.2	Applied
Degree of protection against Water ( <b>Second Characteristic Numeral:IPX6</b> )			
0	Not Protected	-	-
1	Drip Proof Luminaires	9.2.3	-
3	Rain Proof Luminaires	9.2.4	-
4	Splash Proof Luminaires	9.2.5	-
5	Jet Proof Luminaires	9.2.6	-
6	Powerful Water Jet Proof Luminaires	9.2.7	Applied
7	Water Tight Luminaires	9.2.8	-

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### 1.2 Test Observation

Clause	Test/ Requirement Name	Test Result/ Observation	Verdict
14 (9)	<b>Resistance to dust and moisture</b>		P
14 (-)	If IP > IP 20 the order of tests as specified in clause 9.2	IP 66	P
14 (9.2)	Tests for ingress of dust, solid objects and moisture:	See below	P
	- Classification according to IP.....	IP 66	P
	- mounting position during test.....	Normal Position	--
	- fixing screws tightened; torque (Nm).....	--	--
	- Tests according to clauses.....	9.2.2 & 9.2.7	--
	- electric strength test afterwards	Withstood	P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire	Complied	P
	c) no trace of water on current-carrying parts or on insulation where it could become a hazard	No trace of water on current carrying parts or on insulation	P
	d) i) For luminaires without drain holes – no water entry	Satisfactory	P
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		N/A
	g) no entry into enclosure (IP 3X and IP 4X)		N/A
	h) no contact with live parts (IP3X and IP4X)		N/A

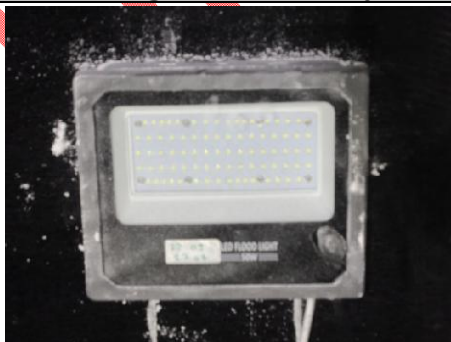
**1.3 Conclusion:** The result of the test were in compliance with the requirements in the test standard.

#### Photographs (before testing)



#### Photographs (after testing)

##### 1. No ingress of Solid Objects



##### 2. No ingress of water





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**Name of Test: Impact (IK) Test Report**

<b>Applicable Test Standards or Test Methods</b>	IEC 62262: 2002, Cl. No. 6
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<b>Test Discipline</b>	Electrical	<b>Test Group</b>	Environmental Test Facilities
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<b>Test Date(s)</b>	30.09.2022
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**Equipment and Calibration Details**

Sr. No.	Name of Instruments	Lab ID No.	Due Date	Traceable to
1	Impact Test Setup: Hammer	EAMP-E-017	24.05.2023	G&B, Mumbai

**Environmental Conditions**

Ambient Temperature (°C)	Relative Humidity (%RH)	Air Pressure (hPa)
26.4	47.0	1000.3

**1.4. Test Details:**

Sr. No.	Parameter	Details
1	IK Test Rating	IK 07
2	Impact Hammer	Vertical Impact Hammer
3	Number of Impacts	3 Impacts on 5 Locations each

**Other information**

Whether the product operated during test?	No
If yes, Input Voltage?	--

**1.5. Test Observation:**

The sample under test withstood without any visual damage after applying impact of IK07

**1.6. Conclusion:** After the test, there was no damage, no deformation, and no access to live parts.

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### 1.7. Photographs

#### Before Testing,



#### After Impact



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

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