

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: METALUX

Report Number: P843318

Luminaire Tested: 24CGSB-45-L850

Issue Date: 5/31/2024

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-2019  
 Report Number: P843318  
 Test Lab: INNOVATION CENTER  
 Issue Date: 5/31/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: METALUX  
 Catalog Number: 24CGSB-45-L850  
 Description: 2x4 CGSB AT 4500LM 5000K 80CRI  
 Light Source: -  
 Ballast/Driver: -

**Summary**

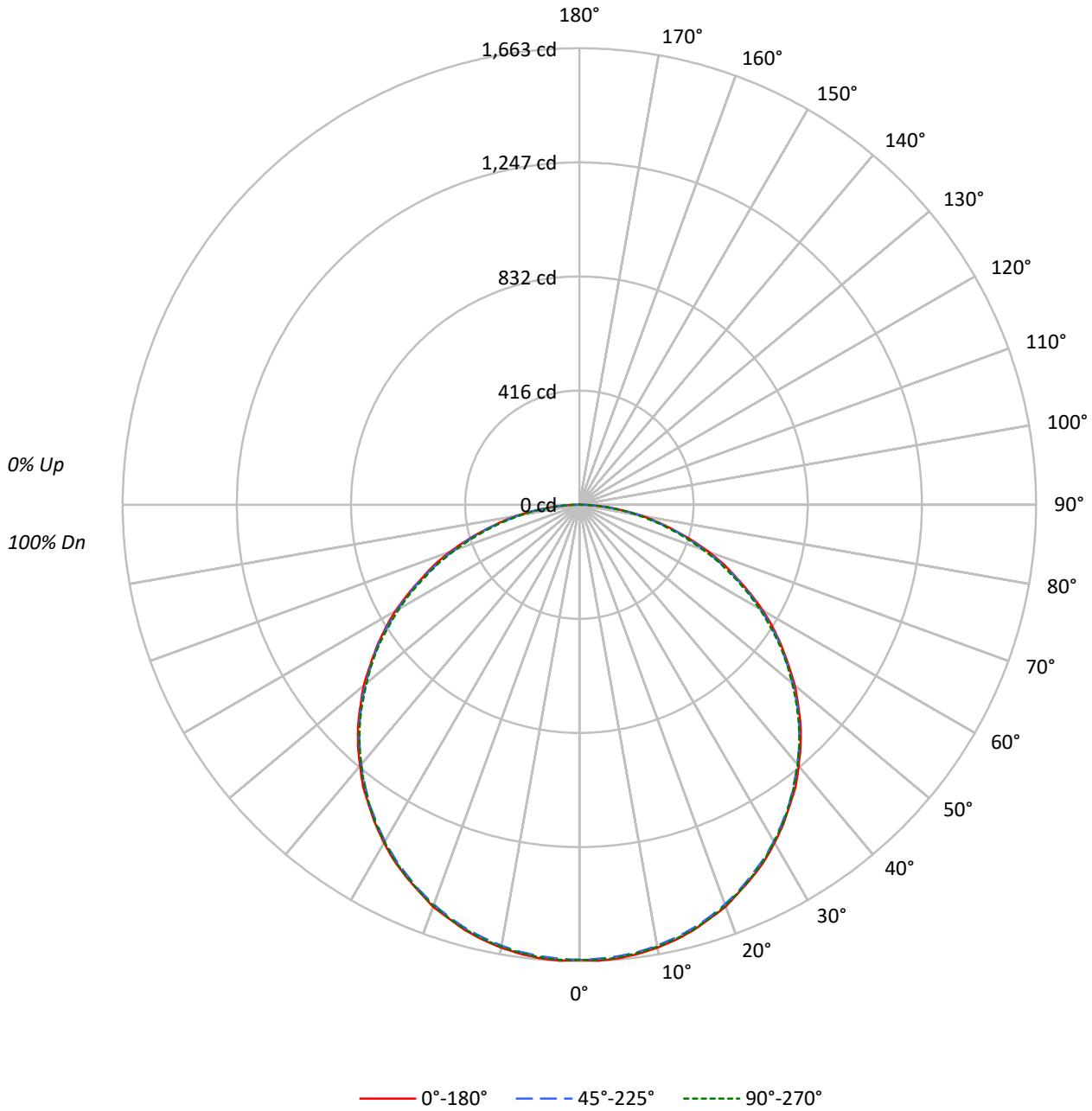
Lumens per Lamp: N/A  
 Luminaire Lumens: 4905.7 lumens  
 Efficiency: N/A  
 Efficacy: 138.6 lumens/watt  
 Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.39  
 Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
 CIE Type: Direct

Input Watts (W): 35.4  
 Input Voltage (V): 120  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: NR  
 Total Harmonic Distortion (THDi): NR  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 24 FT

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	P3	10/30/2015	4/30/2016
Power Meter	IN0214	1/12/2016	1/12/2017
AC Power Source	IN0062	1/12/2016	1/12/2017
DC Power Supply	--	--	--
Room Thermometer	IN0145	1/13/2016	1/13/2017

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### Luminous Intensity Polar Plot



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	94	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	79	68	60	53	66	58	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	62	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2231	2231	2231
5°	2239	2229	2235
10°	2238	2228	2234
15°	2236	2225	2232
20°	2231	2218	2225
25°	2219	2208	2215
30°	2210	2200	2203
35°	2195	2187	2190
40°	2182	2169	2172
45°	2169	2154	2151
50°	2145	2126	2117
55°	2110	2099	2088
60°	2079	2054	2038
65°	2011	1997	1968
70°	1968	1915	1885
75°	1862	1839	1776
80°	1780	1722	1651
85°	1587	1564	1447

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2169 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.1	3.2
10°-20°	451.4	9.2
20°-30°	687.0	14.0
30°-40°	833.8	17.0
40°-50°	873.3	17.8
50°-60°	797.9	16.3
60°-70°	620.1	12.6
70°-80°	371.9	7.6
80°-90°	113.1	2.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1295.5	26.4
0°-40°	2129.3	43.4
0°-60°	3800.5	77.5
0°-90°	4905.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4905.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1658	1658	1658	1658	1658	
5°	1658	1654	1650	1650	1655	158
15°	1605	1599	1598	1598	1602	453
25°	1495	1489	1487	1489	1492	689
35°	1336	1333	1332	1332	1333	837
45°	1140	1134	1132	1131	1131	878
55°	899	896	895	887	890	804
65°	632	630	627	620	618	629
75°	358	357	354	348	342	381
85°	103	101	101	98	94	116
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1658.1	1658.1	1658.1	1658.1	1658.1
2.5°	1662.6	1656.6	1655.1	1655.1	1659.6
5°	1658.1	1653.6	1650.5	1650.5	1655.1
7.5°	1650.5	1644.5	1643.0	1643.0	1646.0
10°	1638.4	1633.9	1630.9	1630.9	1635.4
12.5°	1623.3	1617.3	1615.8	1617.3	1620.3
15°	1605.2	1599.1	1597.6	1597.6	1602.2
17.5°	1581.0	1576.5	1575.0	1575.0	1579.5
20°	1558.3	1550.8	1549.3	1550.8	1553.8
22.5°	1525.1	1522.1	1520.5	1522.1	1523.6
25°	1494.8	1488.8	1487.3	1488.8	1491.8
27.5°	1461.6	1455.5	1454.0	1454.0	1458.6
30°	1422.3	1417.8	1416.2	1416.2	1417.8
32.5°	1381.5	1378.5	1373.9	1375.4	1378.5
35°	1336.1	1333.1	1331.6	1331.6	1333.1
37.5°	1293.8	1287.8	1283.2	1283.2	1286.3
40°	1242.4	1239.4	1234.9	1236.4	1236.4
42.5°	1192.6	1188.0	1185.0	1183.5	1185.0
45°	1139.7	1133.6	1132.1	1130.6	1130.6
47.5°	1080.7	1080.7	1076.2	1073.1	1071.6
50°	1024.8	1018.7	1015.7	1011.2	1011.2
52.5°	959.8	958.3	953.7	952.2	952.2
55°	899.3	896.3	894.8	887.2	890.3
57.5°	837.4	831.3	829.8	825.3	822.2
60°	772.4	769.3	763.3	757.2	757.2
62.5°	702.8	701.3	695.3	690.7	689.2
65°	631.8	630.3	627.3	619.7	618.2
67.5°	571.3	565.3	557.7	551.7	551.7
70°	500.3	492.7	486.7	480.6	479.1
72.5°	427.7	423.2	420.2	414.1	409.6
75°	358.2	356.7	353.7	347.6	341.6
77.5°	293.2	291.7	284.2	279.6	275.1
80°	229.7	223.7	222.2	216.1	213.1
82.5°	161.7	164.8	157.2	155.7	154.2
85°	102.8	101.3	101.3	98.2	93.7
87.5°	45.3	46.9	46.9	46.9	46.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)