

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: P843322

Luminaire Tested: 24CGSB-45-L950

Issue Date: 5/31/2024

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-2019  
 Report Number: P843322  
 Test Lab: INNOVATION CENTER  
 Issue Date: 5/31/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: METALUX  
 Catalog Number: 24CGSB-45-L950  
 Description: 2x4 CGSB AT 4500LM 5000K 90CRI  
 Light Source: -  
 Ballast/Driver: -

**Summary**

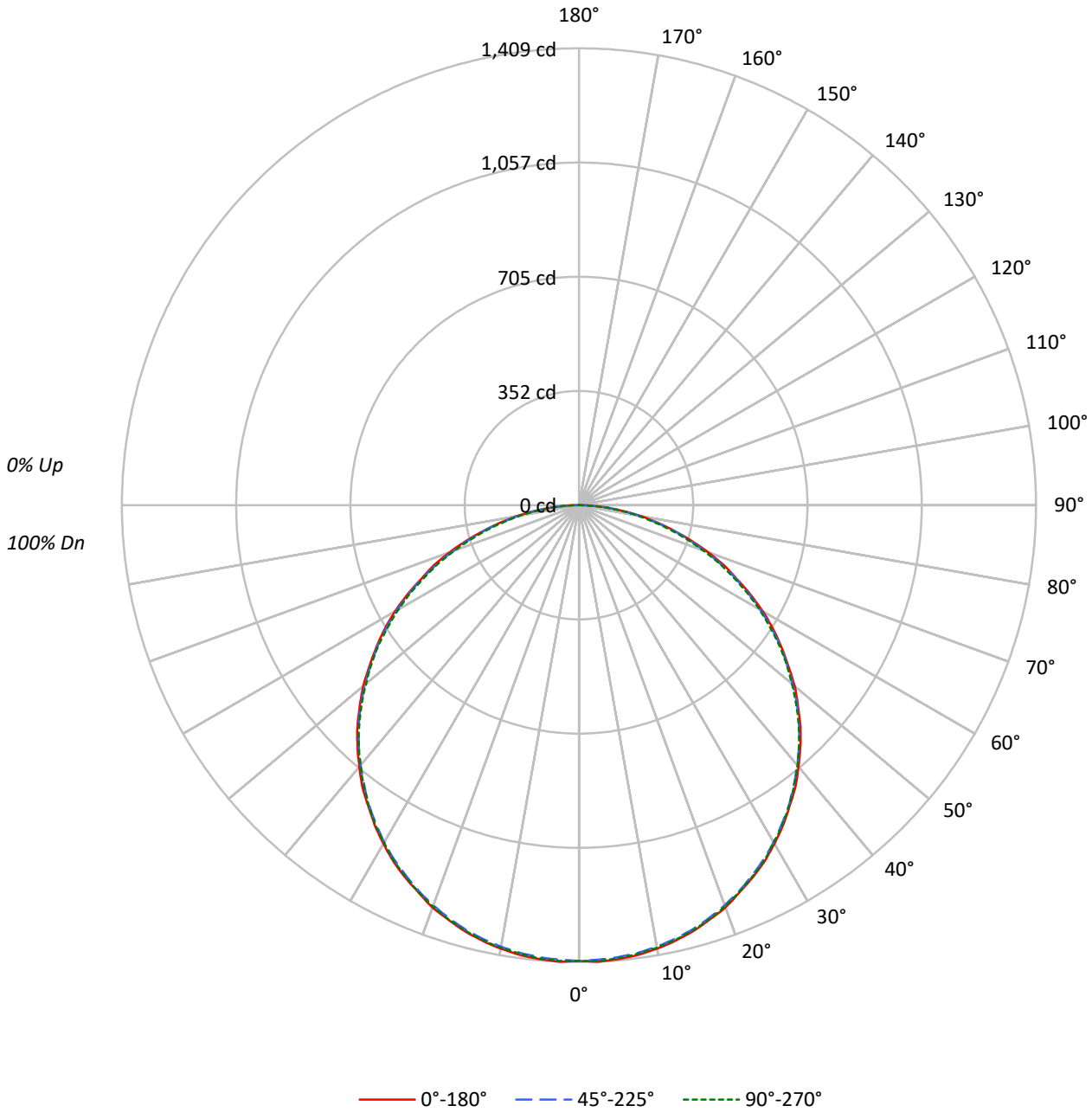
Lumens per Lamp: N/A  
 Luminaire Lumens: 4158.1 lumens  
 Efficiency: N/A  
 Efficacy: 117.5 lumens/watt  
 Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.39  
 Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
 CIE Type: Direct

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°	1891	1891	1891
5°	1898	1890	1895
10°	1897	1889	1894
15°	1895	1886	1892
20°	1891	1880	1886
25°	1881	1872	1877
30°	1873	1865	1867
35°	1860	1854	1856
40°	1850	1838	1841
45°	1838	1826	1823
50°	1818	1802	1794
55°	1788	1779	1770
60°	1762	1741	1727
65°	1705	1693	1668
70°	1668	1623	1598
75°	1578	1559	1505
80°	1509	1459	1399
85°	1345	1325	1226

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1838 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.2	3.2
10°-20°	382.6	9.2
20°-30°	582.3	14.0
30°-40°	706.8	17.0
40°-50°	740.2	17.8
50°-60°	676.3	16.3
60°-70°	525.6	12.6
70°-80°	315.2	7.6
80°-90°	95.9	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°	1098.1	26.4
0°-40°	1804.9	43.4
0°-60°	3221.4	77.5
0°-90°	4158.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4158.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1405	1405	1405	1405	1405	
5°	1405	1402	1399	1399	1403	134
15°	1361	1356	1354	1354	1358	384
25°	1267	1262	1261	1262	1264	584
35°	1132	1130	1129	1129	1130	710
45°	966	961	960	958	958	744
55°	762	760	758	752	755	682
65°	536	534	532	525	524	533
75°	304	302	300	295	290	323
85°	87	86	86	83	79	98
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1405.4	1405.4	1405.4	1405.4	1405.4
2.5°	1409.3	1404.1	1402.9	1402.9	1406.7
5°	1405.4	1401.6	1399.0	1399.0	1402.9
7.5°	1399.0	1393.9	1392.6	1392.6	1395.2
10°	1388.8	1384.9	1382.4	1382.4	1386.2
12.5°	1376.0	1370.8	1369.6	1370.8	1373.4
15°	1360.6	1355.5	1354.2	1354.2	1358.0
17.5°	1340.1	1336.2	1335.0	1335.0	1338.8
20°	1320.9	1314.5	1313.2	1314.5	1317.0
22.5°	1292.7	1290.1	1288.8	1290.1	1291.4
25°	1267.1	1261.9	1260.7	1261.9	1264.5
27.5°	1238.9	1233.8	1232.5	1232.5	1236.3
30°	1205.6	1201.7	1200.4	1200.4	1201.7
32.5°	1171.0	1168.4	1164.6	1165.8	1168.4
35°	1132.5	1130.0	1128.7	1128.7	1130.0
37.5°	1096.7	1091.5	1087.7	1087.7	1090.3
40°	1053.1	1050.5	1046.7	1048.0	1048.0
42.5°	1010.8	1007.0	1004.4	1003.1	1004.4
45°	966.0	960.9	959.6	958.3	958.3
47.5°	916.0	916.0	912.2	909.6	908.3
50°	868.6	863.5	860.9	857.1	857.1
52.5°	813.5	812.3	808.4	807.1	807.1
55°	762.3	759.7	758.4	752.0	754.6
57.5°	709.8	704.6	703.4	699.5	696.9
60°	654.7	652.1	647.0	641.9	641.9
62.5°	595.7	594.5	589.3	585.5	584.2
65°	535.5	534.2	531.7	525.3	524.0
67.5°	484.3	479.2	472.7	467.6	467.6
70°	424.1	417.7	412.5	407.4	406.1
72.5°	362.6	358.7	356.2	351.0	347.2
75°	303.6	302.4	299.8	294.7	289.5
77.5°	248.5	247.3	240.9	237.0	233.2
80°	194.7	189.6	188.3	183.2	180.6
82.5°	137.1	139.6	133.2	132.0	130.7
85°	87.1	85.8	85.8	83.3	79.4
87.5°	38.4	39.7	39.7	39.7	39.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)