

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: P843321

Luminaire Tested: 24CGSB-45-L940

Issue Date: 5/31/2024

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-2019  
 Report Number: P843321  
 Test Lab: INNOVATION CENTER  
 Issue Date: 5/31/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: METALUX  
 Catalog Number: 24CGSB-45-L940  
 Description: 2x4 CGSB AT 4500LM 4000K 90CRI  
 Light Source: -  
 Ballast/Driver: -

**Summary**

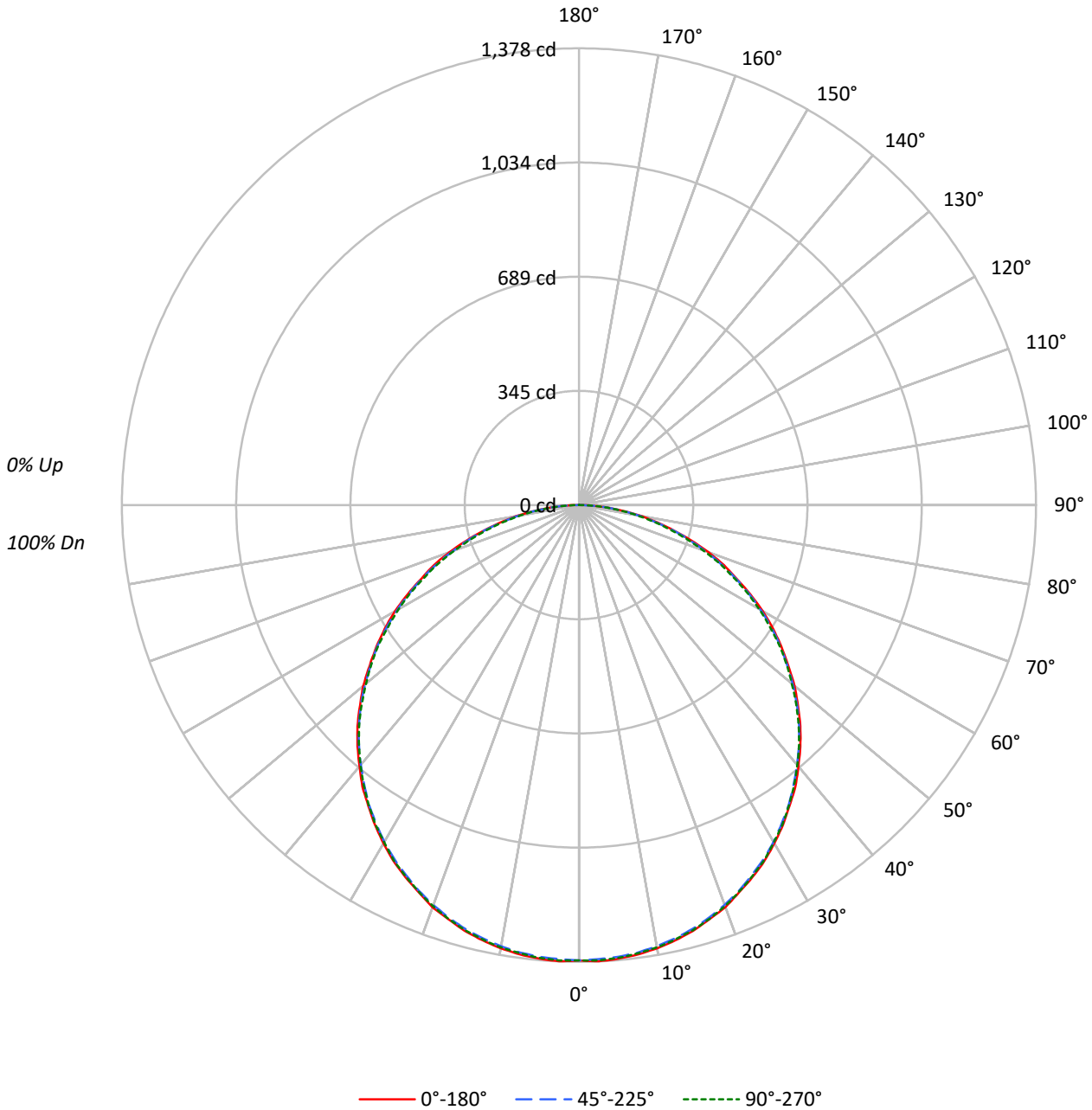
Lumens per Lamp: N/A  
 Luminaire Lumens: 4064.7 lumens  
 Efficiency: N/A  
 Efficacy: 114.8 lumens/watt  
 Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.39  
 Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
 CIE Type: Direct

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°	1848	1848	1848
5°	1855	1847	1852
10°	1855	1846	1851
15°	1853	1844	1849
20°	1849	1838	1843
25°	1839	1829	1835
30°	1831	1823	1825
35°	1818	1812	1814
40°	1808	1797	1799
45°	1797	1785	1783
50°	1777	1762	1754
55°	1748	1739	1730
60°	1722	1702	1688
65°	1667	1655	1631
70°	1631	1587	1562
75°	1543	1524	1471
80°	1475	1426	1368
85°	1315	1295	1198

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1797 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.2	3.2
10°-20°	374.0	9.2
20°-30°	569.2	14.0
30°-40°	690.9	17.0
40°-50°	723.6	17.8
50°-60°	661.1	16.3
60°-70°	513.8	12.6
70°-80°	308.2	7.6
80°-90°	93.7	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°	1073.4	26.4
0°-40°	1764.3	43.4
0°-60°	3149.0	77.5
0°-90°	4064.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4064.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1374	1374	1374	1374	1374	
5°	1374	1370	1368	1368	1371	131
15°	1330	1325	1324	1324	1328	375
25°	1239	1234	1232	1234	1236	571
35°	1107	1105	1103	1103	1105	694
45°	944	939	938	937	937	727
55°	745	743	741	735	738	666
65°	524	522	520	514	512	521
75°	297	296	293	288	283	316
85°	85	84	84	81	78	96
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1373.8	1373.8	1373.8	1373.8	1373.8
2.5°	1377.6	1372.6	1371.3	1371.3	1375.1
5°	1373.8	1370.1	1367.6	1367.6	1371.3
7.5°	1367.6	1362.6	1361.3	1361.3	1363.8
10°	1357.6	1353.8	1351.3	1351.3	1355.1
12.5°	1345.0	1340.0	1338.8	1340.0	1342.5
15°	1330.0	1325.0	1323.7	1323.7	1327.5
17.5°	1310.0	1306.2	1305.0	1305.0	1308.7
20°	1291.2	1284.9	1283.7	1284.9	1287.4
22.5°	1263.6	1261.1	1259.9	1261.1	1262.4
25°	1238.6	1233.6	1232.3	1233.6	1236.1
27.5°	1211.0	1206.0	1204.8	1204.8	1208.5
30°	1178.5	1174.7	1173.5	1173.5	1174.7
32.5°	1144.7	1142.2	1138.4	1139.7	1142.2
35°	1107.1	1104.6	1103.3	1103.3	1104.6
37.5°	1072.0	1067.0	1063.3	1063.3	1065.8
40°	1029.4	1026.9	1023.2	1024.4	1024.4
42.5°	988.1	984.4	981.9	980.6	981.9
45°	944.3	939.3	938.0	936.8	936.8
47.5°	895.4	895.4	891.7	889.2	887.9
50°	849.1	844.1	841.6	837.8	837.8
52.5°	795.3	794.0	790.2	789.0	789.0
55°	745.2	742.7	741.4	735.1	737.6
57.5°	693.8	688.8	687.5	683.8	681.3
60°	640.0	637.5	632.4	627.4	627.4
62.5°	582.3	581.1	576.1	572.3	571.1
65°	523.5	522.2	519.7	513.5	512.2
67.5°	473.4	468.4	462.1	457.1	457.1
70°	414.5	408.3	403.3	398.3	397.0
72.5°	354.4	350.7	348.2	343.1	339.4
75°	296.8	295.6	293.1	288.0	283.0
77.5°	243.0	241.7	235.4	231.7	227.9
80°	190.4	185.3	184.1	179.1	176.6
82.5°	134.0	136.5	130.2	129.0	127.7
85°	85.2	83.9	83.9	81.4	77.6
87.5°	37.6	38.8	38.8	38.8	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)