

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: P843319

Luminaire Tested: 24CGSB-45-L930

Issue Date: 5/31/2024

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-2019  
 Report Number: P843319  
 Test Lab: INNOVATION CENTER  
 Issue Date: 5/31/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: METALUX  
 Catalog Number: 24CGSB-45-L930  
 Description: 2x4 CGSB AT 4500LM 3000K 90CRI  
 Light Source: -  
 Ballast/Driver: -

**Summary**

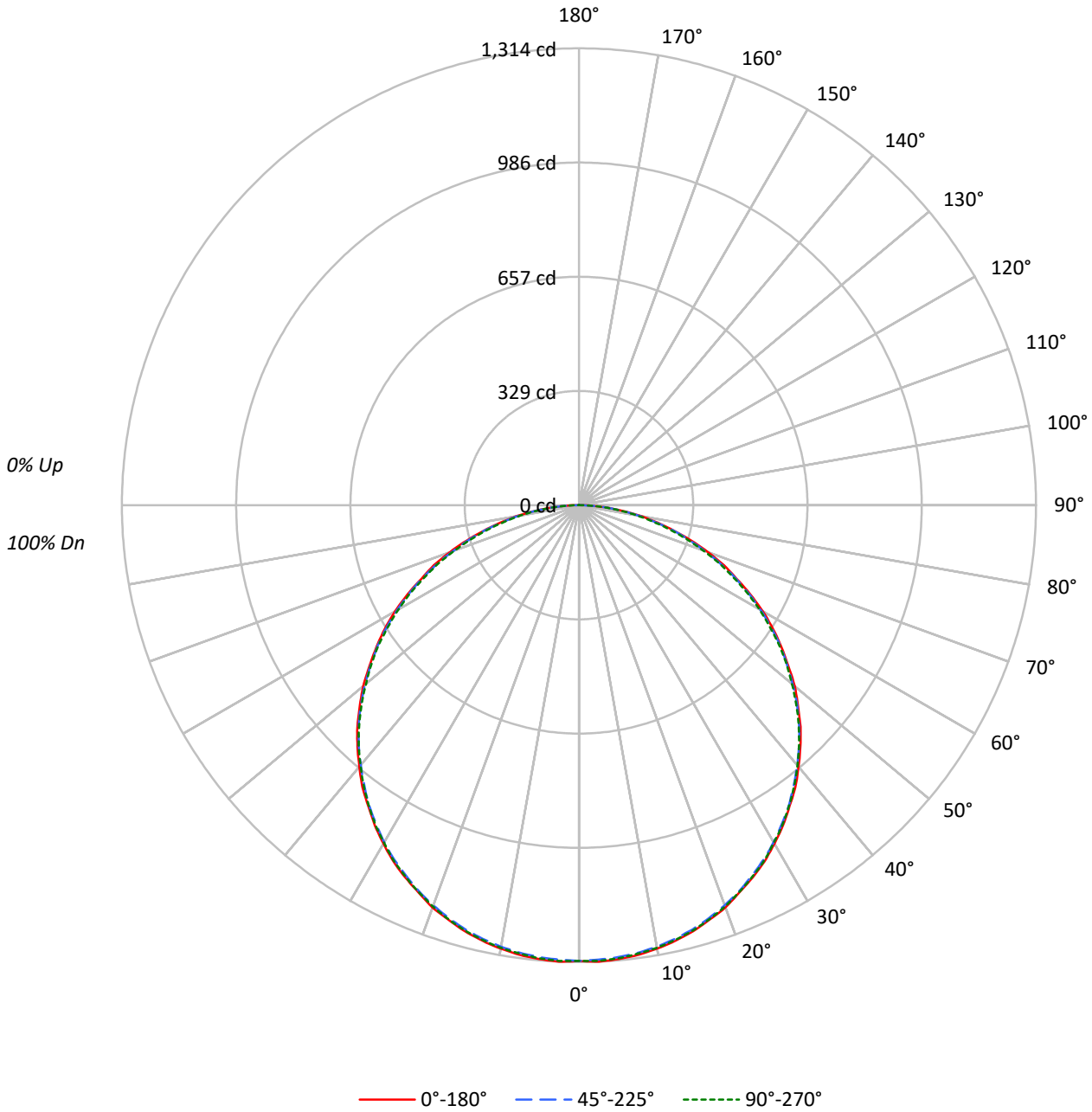
Lumens per Lamp: N/A  
 Luminaire Lumens: 3877.8 lumens  
 Efficiency: N/A  
 Efficacy: 109.5 lumens/watt  
 Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.39  
 Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
 CIE Type: Direct

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°	1764	1764	1764
5°	1770	1762	1767
10°	1769	1761	1766
15°	1768	1759	1764
20°	1764	1754	1759
25°	1754	1745	1751
30°	1747	1739	1741
35°	1735	1729	1731
40°	1725	1714	1717
45°	1714	1703	1701
50°	1696	1681	1673
55°	1668	1659	1651
60°	1643	1624	1611
65°	1590	1578	1556
70°	1556	1513	1490
75°	1472	1454	1404
80°	1407	1361	1306
85°	1254	1237	1144

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1714 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.2	3.2
10°-20°	356.8	9.2
20°-30°	543.0	14.0
30°-40°	659.1	17.0
40°-50°	690.3	17.8
50°-60°	630.7	16.3
60°-70°	490.2	12.6
70°-80°	294.0	7.6
80°-90°	89.4	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°	1024.1	26.4
0°-40°	1683.2	43.4
0°-60°	3004.2	77.5
0°-90°	3877.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3877.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1311	1311	1311	1311	1311	
5°	1311	1307	1305	1305	1308	125
15°	1269	1264	1263	1263	1266	358
25°	1182	1177	1176	1177	1179	545
35°	1056	1054	1053	1053	1054	662
45°	901	896	895	894	894	694
55°	711	708	707	701	704	636
65°	499	498	496	490	489	497
75°	283	282	280	275	270	301
85°	81	80	80	78	74	91
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1310.7	1310.7	1310.7	1310.7	1310.7
2.5°	1314.3	1309.5	1308.3	1308.3	1311.9
5°	1310.7	1307.1	1304.7	1304.7	1308.3
7.5°	1304.7	1299.9	1298.7	1298.7	1301.1
10°	1295.1	1291.6	1289.2	1289.2	1292.8
12.5°	1283.2	1278.4	1277.2	1278.4	1280.8
15°	1268.9	1264.1	1262.9	1262.9	1266.5
17.5°	1249.7	1246.2	1245.0	1245.0	1248.5
20°	1231.8	1225.8	1224.7	1225.8	1228.2
22.5°	1205.5	1203.1	1202.0	1203.1	1204.3
25°	1181.6	1176.9	1175.7	1176.9	1179.3
27.5°	1155.4	1150.6	1149.4	1149.4	1153.0
30°	1124.3	1120.7	1119.5	1119.5	1120.7
32.5°	1092.0	1089.6	1086.1	1087.3	1089.6
35°	1056.2	1053.8	1052.6	1052.6	1053.8
37.5°	1022.7	1018.0	1014.4	1014.4	1016.8
40°	982.1	979.7	976.1	977.3	977.3
42.5°	942.7	939.1	936.7	935.5	936.7
45°	900.9	896.1	894.9	893.7	893.7
47.5°	854.3	854.3	850.7	848.3	847.1
50°	810.1	805.3	802.9	799.3	799.3
52.5°	758.7	757.5	753.9	752.7	752.7
55°	710.9	708.5	707.3	701.3	703.7
57.5°	661.9	657.1	655.9	652.4	650.0
60°	610.5	608.1	603.4	598.6	598.6
62.5°	555.6	554.4	549.6	546.0	544.8
65°	499.4	498.2	495.8	489.9	488.7
67.5°	451.6	446.8	440.9	436.1	436.1
70°	395.5	389.5	384.7	379.9	378.7
72.5°	338.1	334.5	332.1	327.4	323.8
75°	283.2	282.0	279.6	274.8	270.0
77.5°	231.8	230.6	224.6	221.0	217.5
80°	181.6	176.8	175.6	170.9	168.5
82.5°	127.8	130.2	124.3	123.1	121.9
85°	81.2	80.1	80.1	77.7	74.1
87.5°	35.8	37.0	37.0	37.0	37.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)