

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: P843365

Luminaire Tested: 24CGSB-90-L840

Issue Date: 5/31/2024

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-2019  
 Report Number: P843365  
 Test Lab: INNOVATION CENTER  
 Issue Date: 5/31/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: METALUX  
 Catalog Number: 24CGSB-90-L840  
 Description: 2x4 CGSB AT 9000LM 4000K 80CRI  
 Light Source: -  
 Ballast/Driver: -

**Summary**

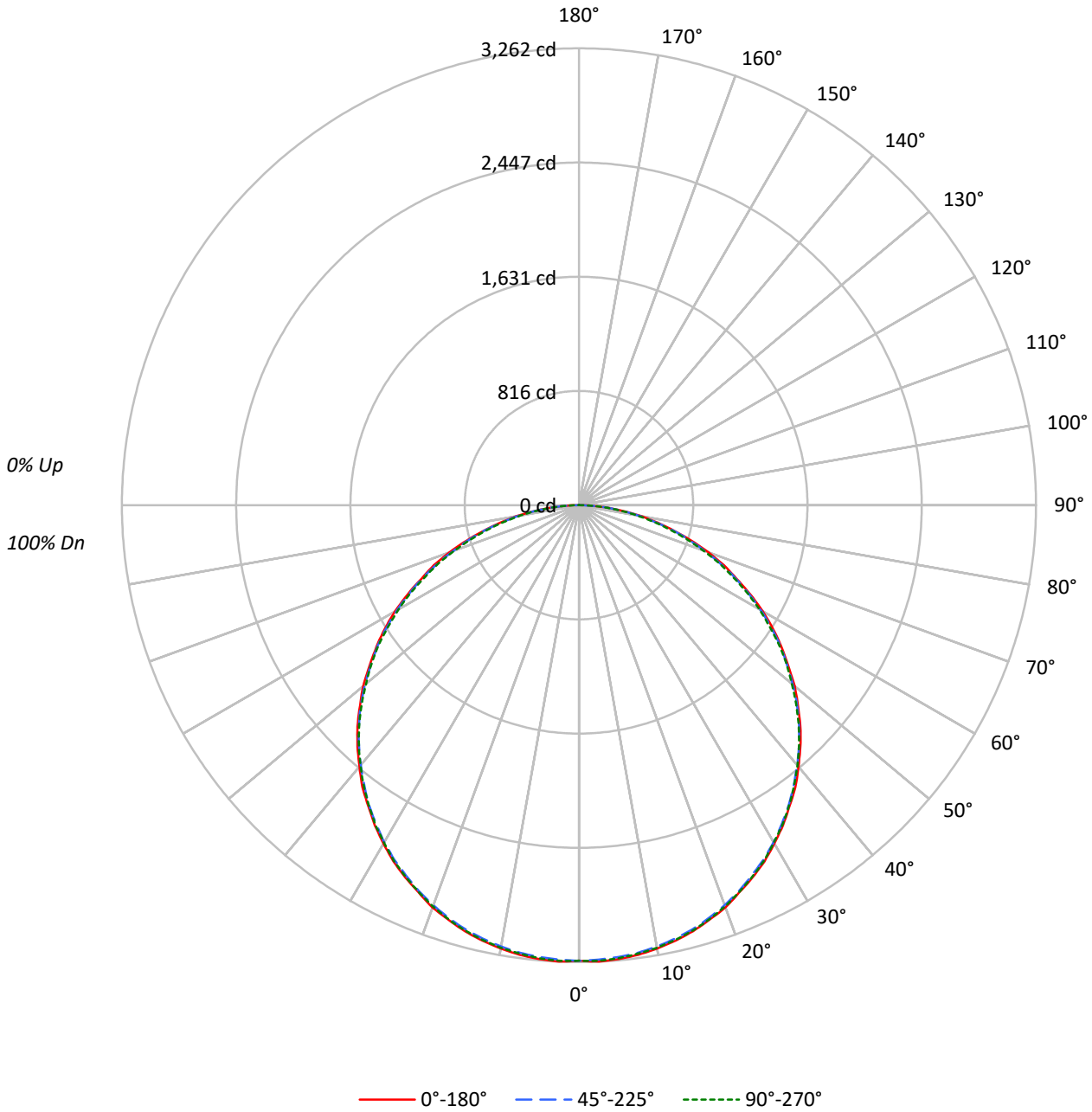
Lumens per Lamp: N/A  
 Luminaire Lumens: 9624.5 lumens  
 Efficiency: N/A  
 Efficacy: 128.5 lumens/watt  
 Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.39  
 Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
 CIE Type: Direct

Input Watts (W): 74.9  
 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°	4377	4377	4377
5°	4394	4374	4386
10°	4392	4371	4384
15°	4387	4366	4378
20°	4378	4352	4365
25°	4354	4332	4345
30°	4335	4317	4321
35°	4306	4291	4296
40°	4281	4255	4261
45°	4254	4226	4221
50°	4208	4171	4153
55°	4139	4118	4097
60°	4078	4030	3998
65°	3946	3918	3861
70°	3861	3756	3698
75°	3654	3607	3484
80°	3492	3378	3240
85°	3112	3067	2839

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4254 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	308.3	3.2
10°-20°	885.6	9.2
20°-30°	1347.8	14.0
30°-40°	1635.9	17.0
40°-50°	1713.2	17.8
50°-60°	1565.4	16.3
60°-70°	1216.7	12.6
70°-80°	729.6	7.6
80°-90°	221.9	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°	2541.7	26.4
0°-40°	4177.6	43.4
0°-60°	7456.3	77.5
0°-90°	9624.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9624.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3253	3253	3253	3253	3253	
5°	3253	3244	3238	3238	3247	309
15°	3149	3137	3134	3134	3143	889
25°	2933	2921	2918	2921	2927	1352
35°	2621	2616	2612	2612	2616	1642
45°	2236	2224	2221	2218	2218	1722
55°	1764	1758	1756	1741	1747	1578
65°	1240	1237	1231	1216	1213	1234
75°	703	700	694	682	670	747
85°	202	199	199	193	184	227
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3253.0	3253.0	3253.0	3253.0	3253.0
2.5°	3261.9	3250.0	3247.1	3247.1	3256.0
5°	3253.0	3244.1	3238.2	3238.2	3247.1
7.5°	3238.2	3226.3	3223.4	3223.4	3229.3
10°	3214.5	3205.6	3199.6	3199.6	3208.5
12.5°	3184.8	3172.9	3170.0	3172.9	3178.9
15°	3149.2	3137.4	3134.4	3134.4	3143.3
17.5°	3101.8	3092.9	3089.9	3089.9	3098.8
20°	3057.3	3042.5	3039.5	3042.5	3048.4
22.5°	2992.1	2986.1	2983.2	2986.1	2989.1
25°	2932.7	2920.9	2917.9	2920.9	2926.8
27.5°	2867.5	2855.6	2852.7	2852.7	2861.6
30°	2790.4	2781.5	2778.5	2778.5	2781.5
32.5°	2710.3	2704.4	2695.5	2698.5	2704.4
35°	2621.4	2615.5	2612.5	2612.5	2615.5
37.5°	2538.4	2526.5	2517.6	2517.6	2523.5
40°	2437.5	2431.6	2422.7	2425.7	2425.7
42.5°	2339.7	2330.8	2324.8	2321.9	2324.8
45°	2235.9	2224.0	2221.1	2218.1	2218.1
47.5°	2120.2	2120.2	2111.3	2105.4	2102.4
50°	2010.5	1998.7	1992.7	1983.8	1983.8
52.5°	1883.0	1880.0	1871.1	1868.2	1868.2
55°	1764.4	1758.5	1755.5	1740.7	1746.6
57.5°	1642.8	1631.0	1628.0	1619.1	1613.2
60°	1515.3	1509.4	1497.5	1485.6	1485.6
62.5°	1378.9	1375.9	1364.1	1355.2	1352.2
65°	1239.5	1236.6	1230.6	1215.8	1212.8
67.5°	1120.9	1109.0	1094.2	1082.4	1082.4
70°	981.5	966.7	954.8	943.0	940.0
72.5°	839.2	830.3	824.4	812.5	803.6
75°	702.8	699.8	693.9	682.0	670.2
77.5°	575.3	572.3	557.5	548.6	539.7
80°	450.7	438.9	435.9	424.0	418.1
82.5°	317.3	323.2	308.4	305.4	302.5
85°	201.6	198.7	198.7	192.7	183.9
87.5°	89.0	91.9	91.9	91.9	91.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)