

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: P843363

Luminaire Tested: 24CGSB-90-L830

Issue Date: 5/31/2024

Tested By:

Approved By:



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**Test Information**

Test Method: LM-79-2019  
 Report Number: P843363  
 Test Lab: INNOVATION CENTER  
 Issue Date: 5/31/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: METALUX  
 Catalog Number: 24CGSB-90-L830  
 Description: 2x4 CGSB AT 9000LM 3000K 80CRI  
 Light Source: -  
 Ballast/Driver: -

**Summary**

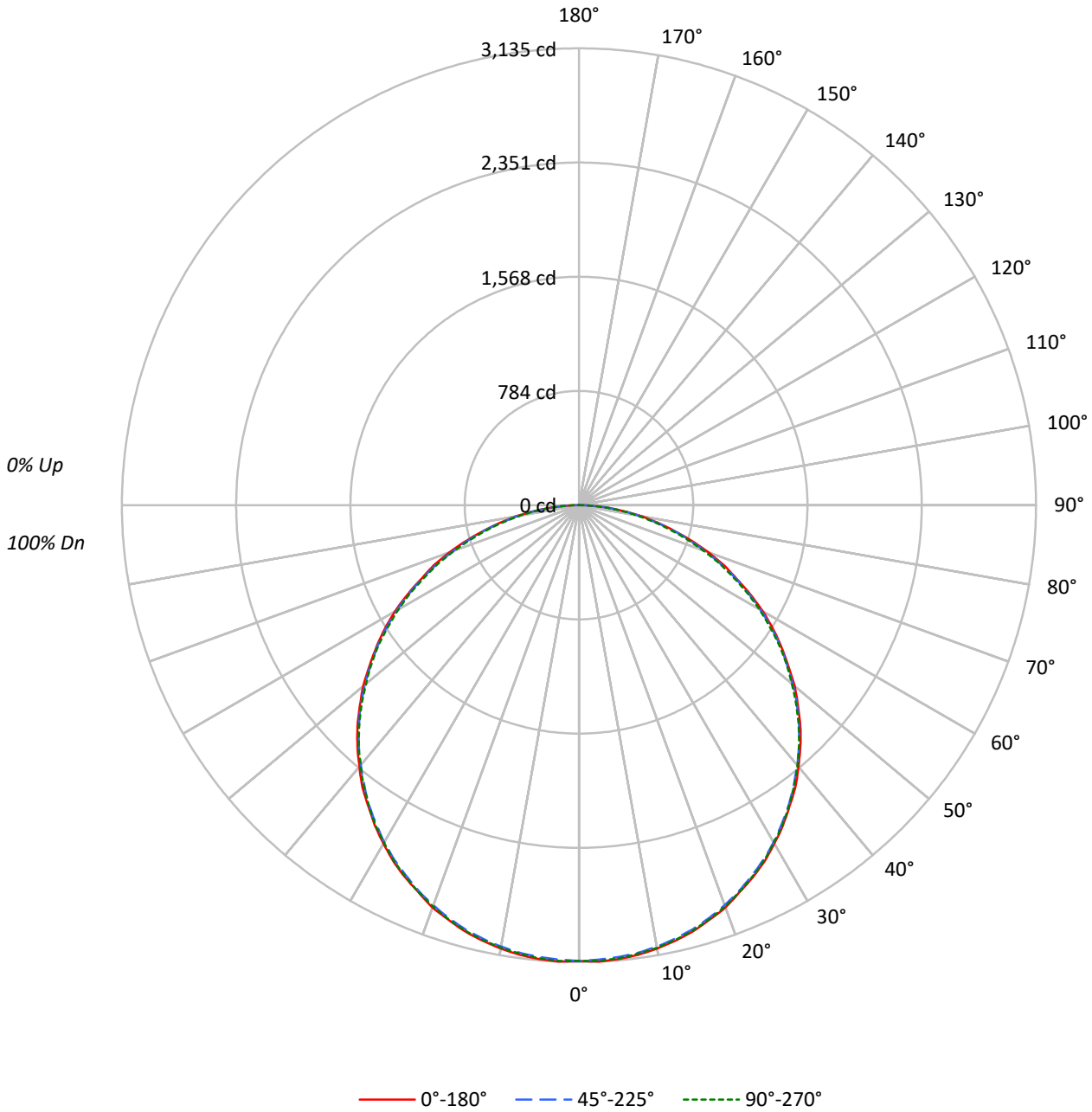
Lumens per Lamp: N/A  
 Luminaire Lumens: 9250.7 lumens  
 Efficiency: N/A  
 Efficacy: 123.5 lumens/watt  
 Spacing Criteria (0/90/45): 1.27 / 1.27 / 1.39  
 Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
 CIE Type: Direct

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°	4207	4207	4207
5°	4223	4204	4215
10°	4221	4202	4213
15°	4216	4197	4208
20°	4208	4183	4195
25°	4185	4164	4176
30°	4167	4149	4154
35°	4139	4124	4129
40°	4115	4090	4095
45°	4089	4062	4057
50°	4045	4009	3991
55°	3978	3958	3938
60°	3919	3873	3843
65°	3793	3766	3711
70°	3711	3611	3554
75°	3512	3467	3348
80°	3357	3247	3114
85°	2992	2949	2728

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4089 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	296.3	3.2
10°-20°	851.2	9.2
20°-30°	1295.4	14.0
30°-40°	1572.3	17.0
40°-50°	1646.7	17.8
50°-60°	1504.7	16.3
60°-70°	1169.4	12.6
70°-80°	701.3	7.6
80°-90°	213.3	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°	2443.0	26.4
0°-40°	4015.3	43.4
0°-60°	7166.7	77.5
0°-90°	9250.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9250.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3127	3127	3127	3127	3127	
5°	3127	3118	3112	3112	3121	297
15°	3027	3016	3013	3013	3021	854
25°	2819	2808	2805	2808	2813	1300
35°	2520	2514	2511	2511	2514	1578
45°	2149	2138	2135	2132	2132	1656
55°	1696	1690	1687	1673	1679	1516
65°	1191	1188	1183	1169	1166	1186
75°	676	673	667	656	644	718
85°	194	191	191	185	177	218
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3126.7	3126.7	3126.7	3126.7	3126.7
2.5°	3135.2	3123.8	3121.0	3121.0	3129.5
5°	3126.7	3118.1	3112.4	3112.4	3121.0
7.5°	3112.4	3101.0	3098.2	3098.2	3103.9
10°	3089.6	3081.1	3075.4	3075.4	3083.9
12.5°	3061.1	3049.7	3046.9	3049.7	3055.4
15°	3026.9	3015.5	3012.7	3012.7	3021.2
17.5°	2981.3	2972.8	2969.9	2969.9	2978.5
20°	2938.6	2924.3	2921.5	2924.3	2930.0
22.5°	2875.9	2870.2	2867.3	2870.2	2873.0
25°	2818.9	2807.5	2804.6	2807.5	2813.2
27.5°	2756.1	2744.7	2741.9	2741.9	2750.4
30°	2682.0	2673.5	2670.6	2670.6	2673.5
32.5°	2605.1	2599.4	2590.8	2593.7	2599.4
35°	2519.6	2513.9	2511.0	2511.0	2513.9
37.5°	2439.8	2428.4	2419.8	2419.8	2425.5
40°	2342.9	2337.2	2328.6	2331.5	2331.5
42.5°	2248.8	2240.3	2234.6	2231.7	2234.6
45°	2149.1	2137.7	2134.8	2132.0	2132.0
47.5°	2037.9	2037.9	2029.3	2023.6	2020.8
50°	1932.4	1921.0	1915.3	1906.8	1906.8
52.5°	1809.9	1807.0	1798.5	1795.6	1795.6
55°	1695.9	1690.2	1687.3	1673.1	1678.8
57.5°	1579.0	1567.6	1564.8	1556.2	1550.5
60°	1456.5	1450.8	1439.4	1428.0	1428.0
62.5°	1325.3	1322.5	1311.1	1302.5	1299.7
65°	1191.4	1188.5	1182.8	1168.6	1165.7
67.5°	1077.4	1066.0	1051.7	1040.3	1040.3
70°	943.4	929.2	917.8	906.4	903.5
72.5°	806.6	798.1	792.4	781.0	772.4
75°	675.5	672.6	666.9	655.5	644.1
77.5°	552.9	550.1	535.8	527.3	518.7
80°	433.2	421.8	419.0	407.6	401.9
82.5°	305.0	310.7	296.4	293.6	290.7
85°	193.8	191.0	191.0	185.3	176.7
87.5°	85.5	88.4	88.4	88.4	88.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)