

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P272181

Luminaire Tested: **24CZ2-65HE-S-UNV-L930-CD1-U**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P272181  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-65HE-S-UNV-L930-CD1-U  
Description: 2'x4' TROFFER LED MODULE,SMOOTH LENS, 90CRI  
Light Source: (392) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

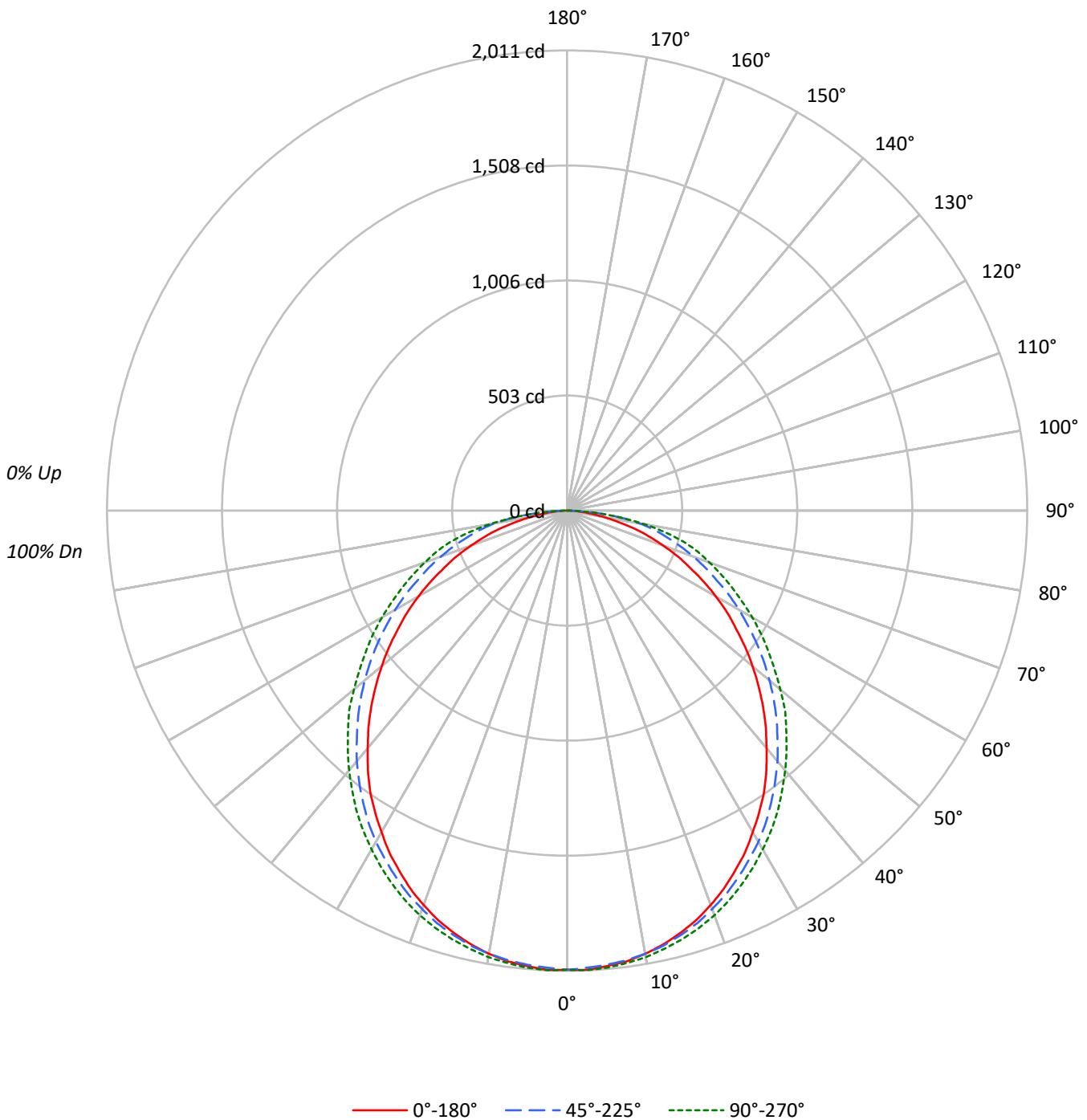
Lumens per Lamp: N/A  
Luminaire Lumens: 5713.0 lumens  
Efficiency: N/A  
Efficacy: 116.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 48.9  
Input Voltage (V): NR  
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: 25 FT



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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	93	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	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2700	2700	2700
5°	2698	2691	2708
10°	2688	2688	2707
15°	2662	2674	2702
20°	2627	2653	2694
25°	2578	2627	2678
30°	2520	2597	2656
35°	2465	2554	2635
40°	2381	2512	2604
45°	2303	2462	2576
50°	2214	2416	2545
55°	2116	2371	2520
60°	2017	2334	2515
65°	1889	2294	2530
70°	1749	2306	2598
75°	1566	2349	2745
80°	1265	2489	2686
85°	953	2184	2129



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	190.0	3.3
10°-20°	542.9	9.5
20°-30°	816.1	14.3
30°-40°	972.1	17.0
40°-50°	994.9	17.4
50°-60°	895.7	15.7
60°-70°	703.4	12.3
70°-80°	456.5	8.0
80°-90°	141.2	2.5
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°	1549.0	27.1
0°-40°	2521.2	44.1
0°-60°	4411.8	77.2
0°-90°	5713.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5713.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2007	2007	2007	2007	2007	
5°	1998	2002	1992	2003	2005	190
15°	1911	1916	1920	1936	1940	539
25°	1737	1751	1769	1798	1804	800
35°	1501	1519	1555	1593	1604	936
45°	1210	1239	1294	1343	1354	933
55°	902	942	1011	1063	1074	809
65°	593	639	720	780	795	591
75°	301	359	452	514	528	319
85°	62	114	142	138	138	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2007.0	2007.0	2007.0	2007.0	2007.0
2.5°	2008.8	2008.8	1999.8	2008.8	2010.6
5°	1997.9	2001.6	1992.5	2003.4	2005.2
7.5°	1987.1	1987.1	1981.6	1992.5	1994.3
10°	1967.1	1968.9	1967.1	1979.8	1981.6
12.5°	1941.7	1945.3	1947.1	1959.8	1961.6
15°	1910.8	1916.3	1919.9	1936.2	1939.9
17.5°	1876.4	1881.8	1890.9	1909.0	1912.7
20°	1834.6	1841.9	1852.8	1876.4	1881.8
22.5°	1789.3	1796.5	1814.7	1836.4	1845.5
25°	1736.6	1751.1	1769.3	1798.3	1803.8
27.5°	1684.0	1696.7	1720.3	1751.1	1758.4
30°	1622.3	1642.3	1671.3	1702.2	1709.4
32.5°	1562.4	1582.4	1616.9	1649.5	1658.6
35°	1500.7	1518.9	1555.2	1593.3	1604.2
37.5°	1430.0	1453.5	1493.5	1531.6	1542.5
40°	1355.6	1384.6	1430.0	1469.9	1482.6
42.5°	1284.8	1315.6	1361.0	1404.5	1419.1
45°	1210.4	1239.4	1293.9	1342.8	1353.7
47.5°	1134.2	1166.8	1224.9	1273.9	1292.0
50°	1057.9	1092.4	1154.1	1204.9	1215.8
52.5°	981.7	1018.0	1083.4	1137.8	1143.2
55°	901.9	941.8	1010.8	1063.4	1074.3
57.5°	829.3	863.8	938.2	992.6	1005.3
60°	749.5	787.6	867.4	918.2	934.6
62.5°	673.2	713.2	796.6	847.4	862.0
65°	593.4	638.8	720.4	780.3	794.8
67.5°	524.4	568.0	655.1	713.2	727.7
70°	444.6	493.6	586.1	646.0	660.5
72.5°	375.6	426.4	519.0	577.1	598.8
75°	301.2	359.3	451.9	513.5	528.1
77.5°	228.6	295.8	390.2	437.3	437.3
80°	163.3	234.1	321.2	343.0	346.6
82.5°	107.1	176.0	237.7	235.9	235.9
85°	61.7	114.3	141.5	137.9	137.9
87.5°	23.6	47.2	50.8	50.8	49.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)