

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: P389143

Luminaire Tested: **24CZ2-80VHE-SQR-UNV-L940-CD1-SWPD1-U**

Issue Date: 2/28/2020

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: P389143  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2002-678-2)  
Test Lab: INNOVATION CENTER (G2)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-80VHE-SQR-UNV-L940-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6585.4 lumens  
Efficiency: N/A  
Efficacy: 122.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.33 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

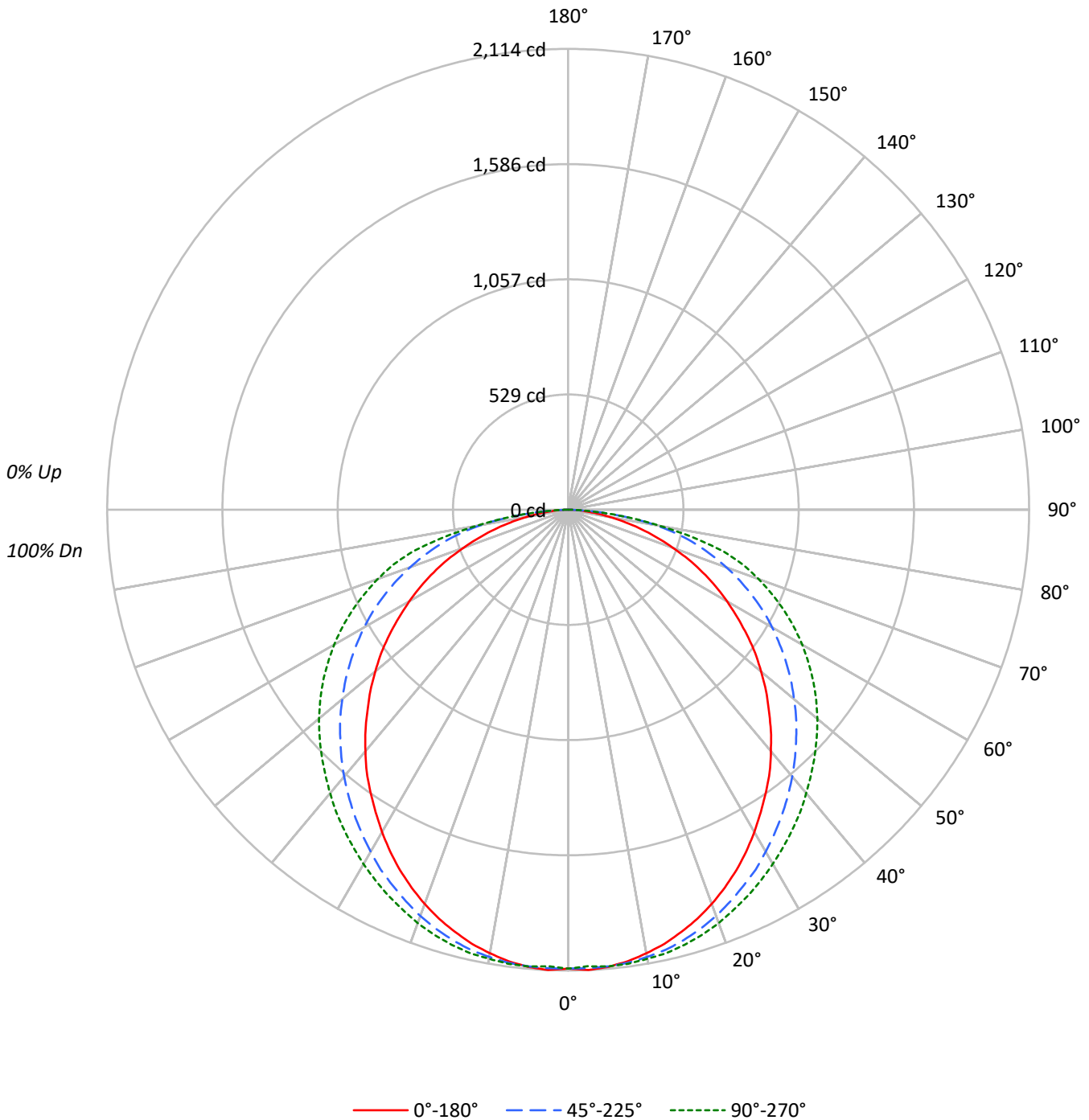
Input Watts (W): 53.8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20			20				20			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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	89	86	84	82	82	
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67	67	
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56	56	
4	81	68	59	52	78	67	58	52	64	57	51	62	55	50	60	54	49	47	47	
5	74	61	51	44	72	60	51	44	57	50	44	55	49	43	54	48	43	41	41	
6	68	55	45	39	66	54	45	38	52	44	38	50	43	38	48	42	37	35	35	
7	63	49	40	34	62	49	40	34	47	39	34	45	39	33	44	38	33	31	31	
8	59	45	36	30	57	44	36	30	43	35	30	42	35	30	40	34	30	28	28	
9	55	41	33	27	54	41	33	27	39	32	27	38	32	27	37	31	27	25	25	
10	52	38	30	25	50	37	30	24	36	29	24	36	29	24	35	29	24	22	22	

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

	0°	45°	90°
0°	2832	2832	2832
5°	2843	2840	2840
10°	2823	2846	2858
15°	2793	2847	2878
20°	2756	2840	2889
25°	2709	2825	2899
30°	2652	2814	2916
35°	2597	2807	2943
40°	2540	2807	2983
45°	2474	2814	3041
50°	2417	2831	3123
55°	2346	2862	3219
60°	2265	2908	3335
65°	2167	2963	3475
70°	2010	3037	3653
75°	1820	3143	3821
80°	1533	3151	3285
85°	1175	2384	2384



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	199.8	3.0
10°-20°	574.9	8.7
20°-30°	873.2	13.3
30°-40°	1062.1	16.1
40°-50°	1130.8	17.2
50°-60°	1077.1	16.4
60°-70°	900.7	13.7
70°-80°	600.5	9.1
80°-90°	166.2	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°	1647.9	25.0
0°-40°	2710.1	41.2
0°-60°	4918.0	74.7
0°-90°	6585.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6585.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2105	2105	2105	2105	2105	
5°	2105	2092	2103	2103	2103	200
15°	2005	2009	2044	2059	2066	565
25°	1824	1848	1903	1935	1953	840
35°	1581	1627	1709	1766	1792	989
45°	1300	1370	1479	1561	1598	1005
55°	1000	1087	1220	1326	1372	894
65°	681	781	931	1046	1092	672
75°	350	461	604	707	735	371
85°	76	141	154	152	154	92
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2105.0	2105.0	2105.0	2105.0	2105.0
2.5°	2113.7	2098.5	2105.0	2105.0	2096.3
5°	2105.0	2092.0	2102.8	2102.8	2102.8
7.5°	2089.8	2078.9	2096.3	2100.7	2100.7
10°	2065.9	2061.5	2083.3	2089.8	2092.0
12.5°	2039.8	2037.6	2068.0	2076.7	2083.3
15°	2005.0	2009.3	2044.1	2059.3	2065.9
17.5°	1968.0	1976.7	2015.9	2037.6	2044.1
20°	1924.5	1937.6	1983.2	2005.0	2018.0
22.5°	1876.7	1896.3	1944.1	1970.2	1985.4
25°	1824.5	1848.4	1902.8	1935.4	1952.8
27.5°	1768.0	1798.4	1861.5	1898.4	1915.8
30°	1707.1	1741.9	1811.4	1854.9	1876.7
32.5°	1644.0	1685.3	1761.4	1809.3	1835.4
35°	1580.9	1626.6	1709.2	1765.8	1791.9
37.5°	1517.9	1563.5	1654.9	1715.8	1748.4
40°	1446.1	1500.5	1598.3	1665.7	1698.4
42.5°	1376.5	1435.2	1539.6	1613.6	1648.3
45°	1300.4	1370.0	1478.7	1561.4	1598.3
47.5°	1230.8	1300.4	1417.8	1504.8	1546.1
50°	1154.7	1228.6	1352.6	1448.3	1491.8
52.5°	1080.8	1156.9	1287.4	1389.6	1433.1
55°	1000.3	1087.3	1220.0	1326.5	1372.2
57.5°	919.9	1013.4	1150.4	1261.3	1306.9
60°	841.6	937.3	1080.8	1191.7	1239.5
62.5°	763.3	859.0	1009.0	1122.1	1167.8
65°	680.7	780.7	930.7	1046.0	1091.6
67.5°	598.0	702.4	852.4	967.7	1011.2
70°	511.0	621.9	772.0	885.1	928.6
72.5°	430.6	541.5	689.3	800.3	841.6
75°	350.1	461.0	604.5	706.7	735.0
77.5°	271.8	382.7	511.0	578.4	585.0
80°	197.9	302.3	406.7	426.2	424.0
82.5°	132.7	226.2	280.5	282.7	289.2
85°	76.1	141.3	154.4	152.2	154.4
87.5°	30.4	50.0	43.5	32.6	32.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)