

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: P389002

Luminaire Tested: **24CZ2-65HE-SQR-UNV-L950-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: P389002  
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: 24CZ2-65HE-SQR-UNV-L950-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND SQUARE LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5667.3 lumens  
Efficiency: N/A  
Efficacy: 115.9 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

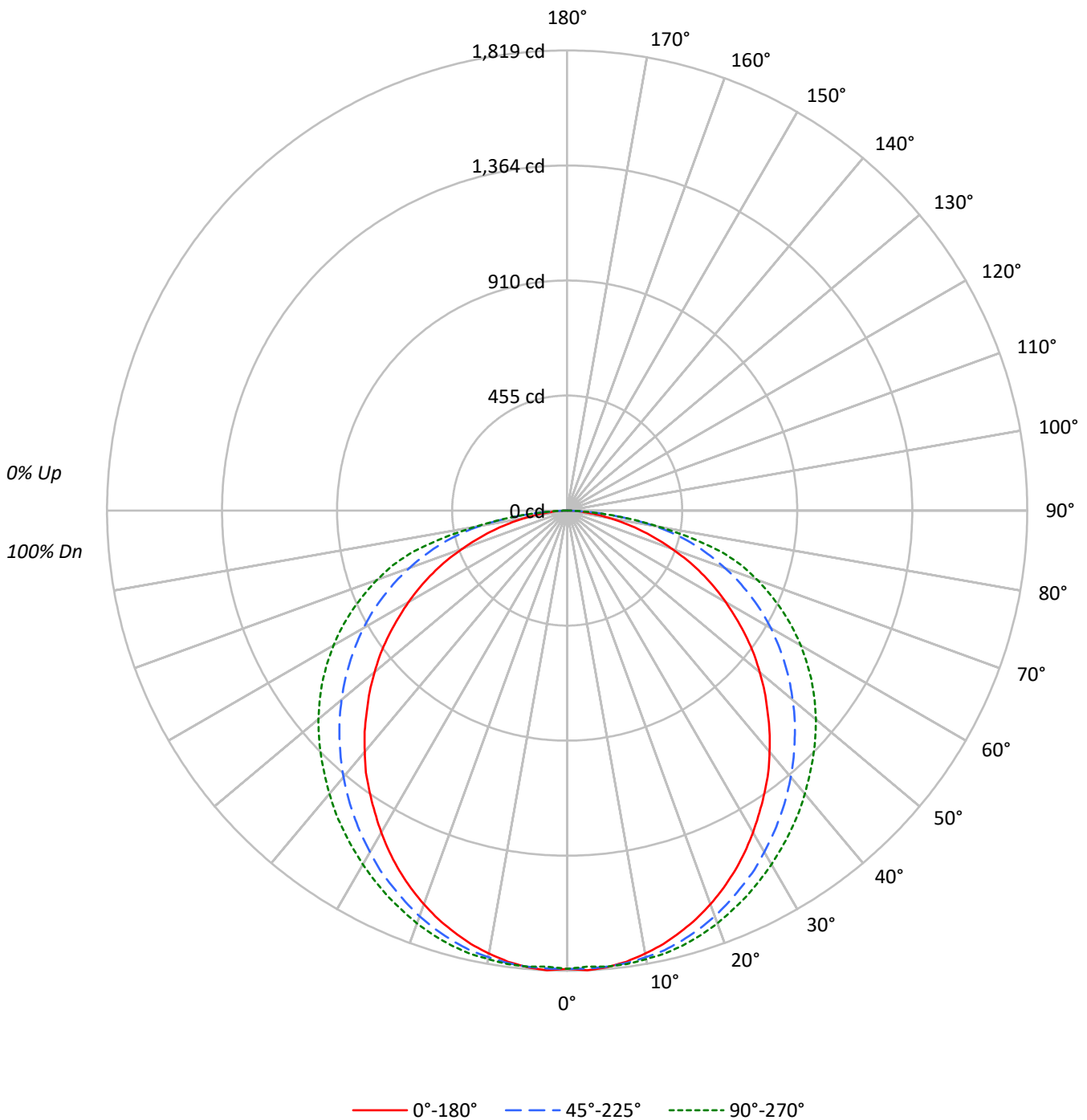
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

	0°	45°	90°
0°	2437	2437	2437
5°	2447	2444	2444
10°	2429	2449	2460
15°	2404	2450	2477
20°	2371	2444	2487
25°	2331	2431	2495
30°	2282	2422	2509
35°	2235	2416	2533
40°	2186	2416	2567
45°	2129	2422	2617
50°	2080	2436	2687
55°	2019	2463	2770
60°	1949	2503	2870
65°	1865	2550	2991
70°	1730	2614	3144
75°	1566	2705	3288
80°	1320	2712	2827
85°	1011	2052	2052



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.0	3.0
10°-20°	494.7	8.7
20°-30°	751.5	13.3
30°-40°	914.1	16.1
40°-50°	973.2	17.2
50°-60°	926.9	16.4
60°-70°	775.2	13.7
70°-80°	516.8	9.1
80°-90°	143.0	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°	1418.2	25.0
0°-40°	2332.2	41.2
0°-60°	4232.3	74.7
0°-90°	5667.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5667.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1812	1812	1812	1812	1812	
5°	1812	1800	1810	1810	1810	172
15°	1726	1729	1759	1772	1778	487
25°	1570	1591	1638	1666	1680	723
35°	1360	1400	1471	1520	1542	851
45°	1119	1179	1273	1344	1376	865
55°	861	936	1050	1142	1181	770
65°	586	672	801	900	940	579
75°	301	397	520	608	632	319
85°	66	122	133	131	133	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1811.5	1811.5	1811.5	1811.5	1811.5
2.5°	1819.0	1805.9	1811.5	1811.5	1804.1
5°	1811.5	1800.3	1809.7	1809.7	1809.7
7.5°	1798.4	1789.1	1804.1	1807.8	1807.8
10°	1777.9	1774.1	1792.8	1798.4	1800.3
12.5°	1755.4	1753.5	1779.7	1787.2	1792.8
15°	1725.5	1729.2	1759.1	1772.2	1777.9
17.5°	1693.6	1701.1	1734.8	1753.5	1759.1
20°	1656.2	1667.4	1706.7	1725.5	1736.7
22.5°	1615.0	1631.9	1673.1	1695.5	1708.6
25°	1570.1	1590.7	1637.5	1665.6	1680.5
27.5°	1521.5	1547.7	1601.9	1633.8	1648.7
30°	1469.1	1499.0	1558.9	1596.3	1615.0
32.5°	1414.8	1450.4	1515.9	1557.0	1579.5
35°	1360.5	1399.8	1470.9	1519.6	1542.1
37.5°	1306.3	1345.6	1424.2	1476.6	1504.6
40°	1244.5	1291.3	1375.5	1433.5	1461.6
42.5°	1184.6	1235.1	1325.0	1388.6	1418.5
45°	1119.1	1179.0	1272.6	1343.7	1375.5
47.5°	1059.2	1119.1	1220.2	1295.0	1330.6
50°	993.7	1057.4	1164.0	1246.4	1283.8
52.5°	930.1	995.6	1107.9	1195.8	1233.3
55°	860.9	935.7	1049.9	1141.6	1180.9
57.5°	791.6	872.1	990.0	1085.4	1124.7
60°	724.2	806.6	930.1	1025.5	1066.7
62.5°	656.9	739.2	868.3	965.7	1005.0
65°	585.8	671.8	801.0	900.2	939.5
67.5°	514.6	604.5	733.6	832.8	870.2
70°	439.8	535.2	664.4	761.7	799.1
72.5°	370.5	466.0	593.2	688.7	724.2
75°	301.3	396.7	520.3	608.2	632.5
77.5°	233.9	329.4	439.8	497.8	503.4
80°	170.3	260.1	350.0	366.8	364.9
82.5°	114.2	194.6	241.4	243.3	248.9
85°	65.5	121.6	132.9	131.0	132.9
87.5°	26.2	43.0	37.4	28.1	28.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)