

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: P391757

Luminaire Tested: **24CZ2-85VHE-HRP-UNV-L940-CD1-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: P391757  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-85VHE-HRP-UNV-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6235.8 lumens  
Efficiency: N/A  
Efficacy: 107.7 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

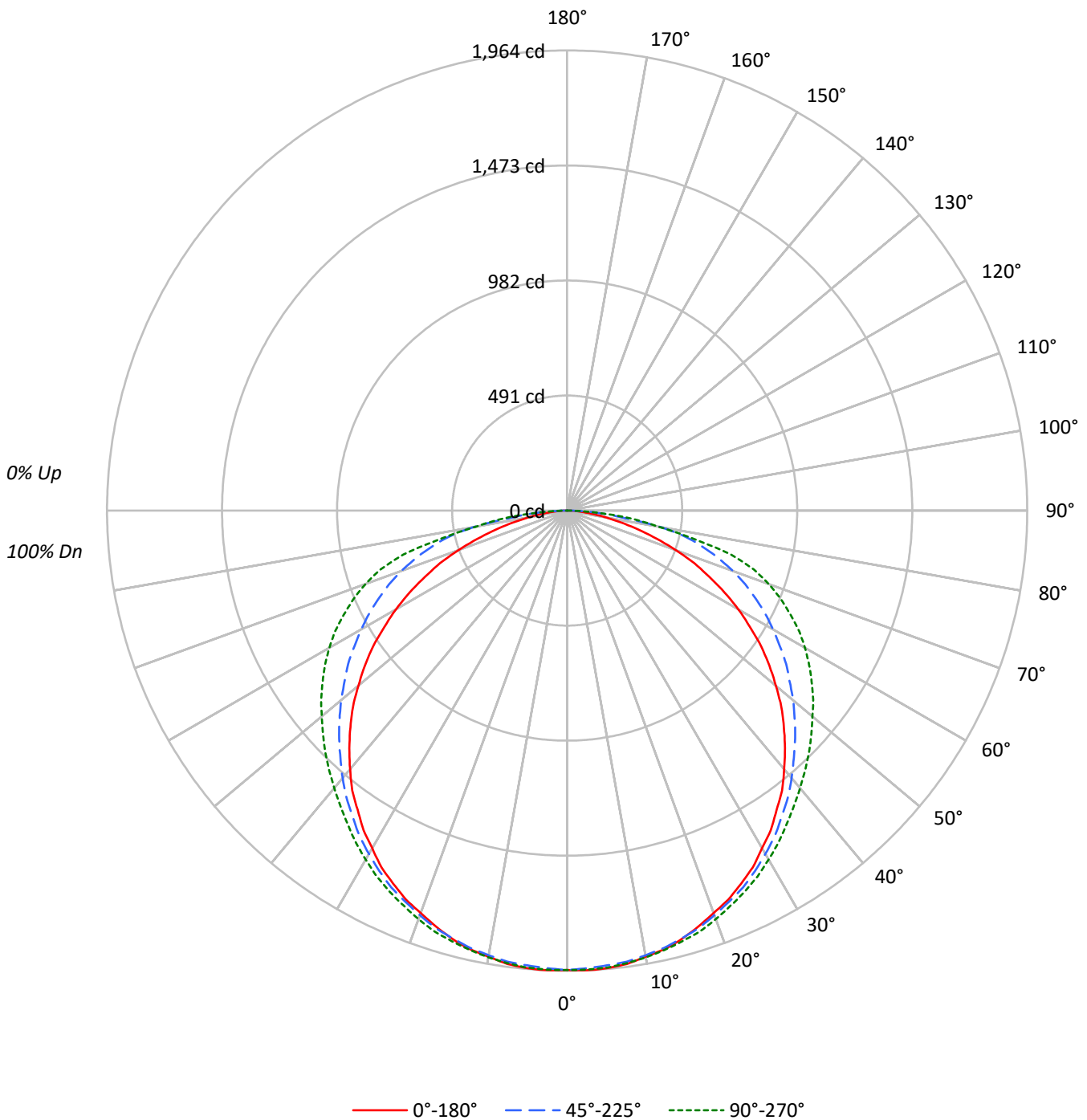
Input Watts (W): 57.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	2639	2639	2639
5°	2649	2632	2644
10°	2641	2633	2645
15°	2637	2632	2650
20°	2617	2631	2657
25°	2608	2636	2663
30°	2585	2629	2672
35°	2561	2621	2682
40°	2532	2618	2716
45°	2490	2619	2778
50°	2434	2635	2862
55°	2373	2677	2989
60°	2272	2730	3155
65°	2127	2826	3348
70°	1935	2957	3602
75°	1640	3119	3763
80°	1294	3140	3044
85°	956	2388	2674



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	186.0	3.0
10°-20°	535.4	8.6
20°-30°	818.7	13.1
30°-40°	1000.8	16.0
40°-50°	1066.7	17.1
50°-60°	1019.9	16.4
60°-70°	864.0	13.9
70°-80°	580.6	9.3
80°-90°	163.8	2.6
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°	1540.0	24.7
0°-40°	2540.9	40.7
0°-60°	4627.4	74.2
0°-90°	6235.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6235.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1961	1961	1961	1961	1961	
5°	1961	1958	1949	1958	1958	186
15°	1893	1893	1890	1905	1902	534
25°	1757	1763	1775	1791	1794	810
35°	1559	1571	1596	1627	1633	977
45°	1308	1330	1376	1435	1460	1009
55°	1011	1048	1141	1231	1274	901
65°	668	736	888	1005	1052	663
75°	316	430	600	702	724	338
85°	62	127	155	167	173	77
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1961.0	1961.0	1961.0	1961.0	1961.0
2.5°	1964.1	1964.1	1954.8	1961.0	1961.0
5°	1961.0	1957.9	1948.6	1957.9	1957.9
7.5°	1951.7	1948.6	1942.4	1951.7	1948.6
10°	1933.1	1933.1	1927.0	1936.2	1936.2
12.5°	1917.7	1914.6	1911.5	1923.9	1920.8
15°	1892.9	1892.9	1889.8	1905.3	1902.2
17.5°	1862.0	1865.1	1868.2	1880.6	1883.7
20°	1828.0	1834.2	1837.3	1855.8	1855.8
22.5°	1797.1	1800.1	1806.3	1824.9	1824.9
25°	1756.8	1763.0	1775.4	1790.9	1794.0
27.5°	1716.6	1719.7	1735.2	1756.8	1759.9
30°	1664.1	1673.3	1691.9	1716.6	1719.7
32.5°	1617.7	1626.9	1648.6	1673.3	1679.5
35°	1558.9	1571.3	1596.0	1626.9	1633.1
37.5°	1506.3	1515.6	1546.5	1580.5	1589.8
40°	1441.4	1459.9	1490.8	1531.0	1546.5
42.5°	1376.4	1395.0	1432.1	1484.7	1503.2
45°	1308.4	1330.0	1376.4	1435.2	1459.9
47.5°	1240.3	1265.0	1317.6	1385.7	1413.5
50°	1163.0	1193.9	1258.9	1336.2	1367.1
52.5°	1088.7	1125.9	1197.0	1283.6	1323.8
55°	1011.4	1048.5	1141.3	1231.0	1274.3
57.5°	924.8	974.3	1076.4	1178.4	1224.8
60°	844.4	890.8	1014.5	1125.9	1172.3
62.5°	757.8	819.7	952.7	1070.2	1116.6
65°	668.1	736.1	887.7	1005.2	1051.6
67.5°	587.7	661.9	822.7	940.3	986.7
70°	491.8	584.6	751.6	869.1	915.5
72.5°	402.1	504.2	677.4	791.8	835.1
75°	315.5	429.9	600.0	702.1	723.8
77.5°	235.1	355.7	519.6	562.9	547.5
80°	167.0	284.6	405.2	383.5	392.8
82.5°	108.3	216.5	250.5	284.6	293.8
85°	61.9	126.8	154.7	167.0	173.2
87.5°	27.8	46.4	61.9	61.9	58.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)