

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: P389191

Luminaire Tested: **24CZ2-90VHE-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: P389191
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: 24CZ2-90VHE-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: 7334.8 lumens
Efficiency: N/A
Efficacy: 118.7 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

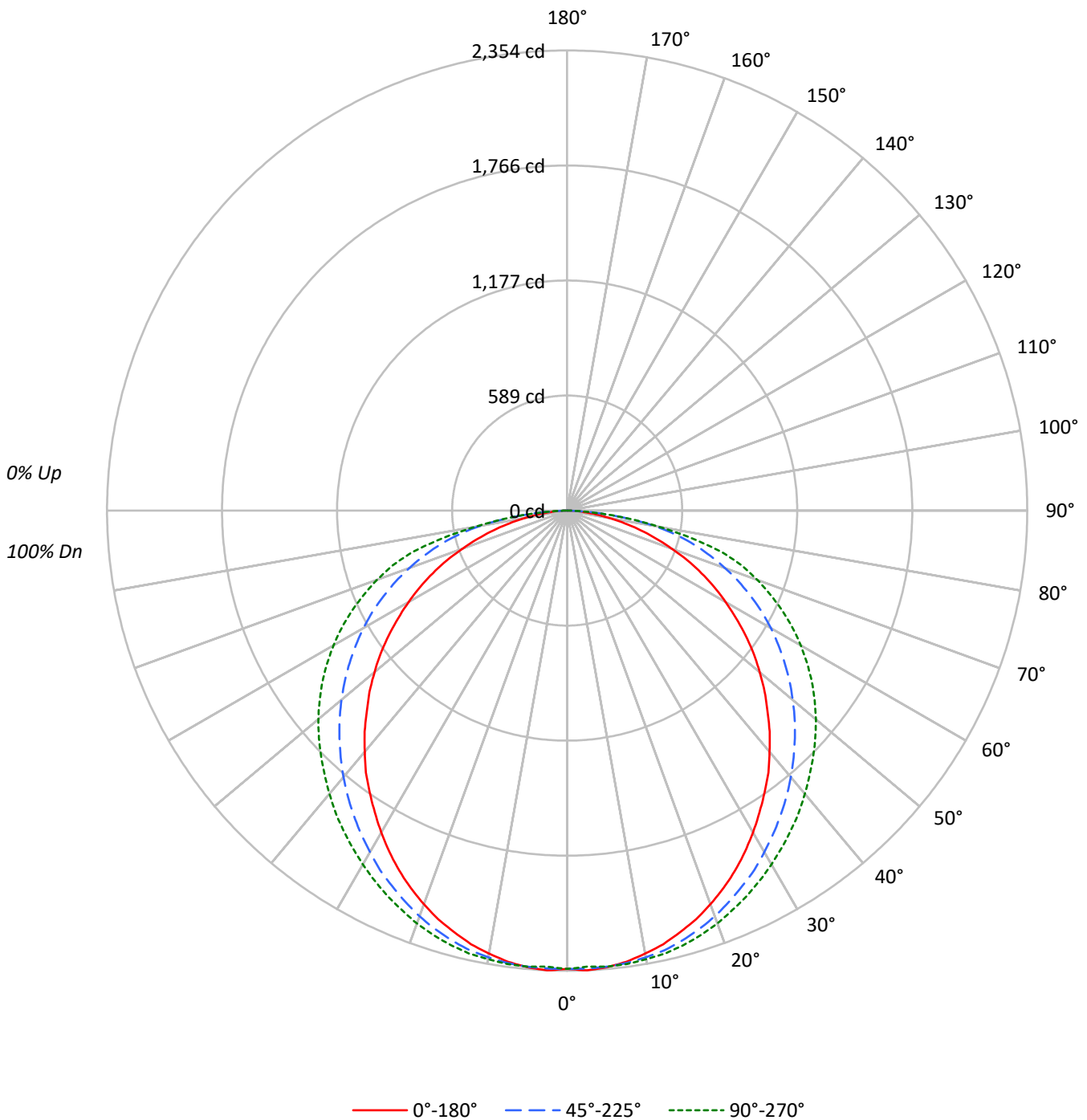
Input Watts (W): 61.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
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°	3155	3155	3155
5°	3167	3163	3163
10°	3144	3170	3183
15°	3111	3171	3205
20°	3069	3163	3218
25°	3017	3146	3229
30°	2954	3135	3247
35°	2892	3127	3278
40°	2829	3127	3322
45°	2756	3134	3387
50°	2692	3153	3478
55°	2613	3187	3585
60°	2522	3239	3715
65°	2414	3300	3871
70°	2239	3382	4068
75°	2027	3500	4256
80°	1708	3509	3660
85°	1309	2655	2655



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.6	3.0
10°-20°	640.3	8.7
20°-30°	972.6	13.3
30°-40°	1183.0	16.1
40°-50°	1259.5	17.2
50°-60°	1199.6	16.4
60°-70°	1003.2	13.7
70°-80°	668.9	9.1
80°-90°	185.1	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°	1835.4	25.0
0°-40°	3018.5	41.2
0°-60°	5477.6	74.7
0°-90°	7334.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7334.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2345	2345	2345	2345	2345	
5°	2345	2330	2342	2342	2342	222
15°	2233	2238	2277	2294	2301	630
25°	2032	2059	2119	2156	2175	936
35°	1761	1812	1904	1967	1996	1102
45°	1448	1526	1647	1739	1780	1120
55°	1114	1211	1359	1478	1528	996
65°	758	870	1037	1165	1216	749
75°	390	514	673	787	819	413
85°	85	157	172	170	172	102
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2344.6	2344.6	2344.6	2344.6	2344.6
2.5°	2354.2	2337.3	2344.6	2344.6	2334.9
5°	2344.6	2330.0	2342.1	2342.1	2342.1
7.5°	2327.6	2315.5	2334.9	2339.7	2339.7
10°	2301.0	2296.1	2320.3	2327.6	2330.0
12.5°	2271.9	2269.5	2303.4	2313.1	2320.3
15°	2233.1	2238.0	2276.7	2293.7	2301.0
17.5°	2192.0	2201.7	2245.3	2269.5	2276.7
20°	2143.5	2158.1	2208.9	2233.1	2247.7
22.5°	2090.2	2112.0	2165.3	2194.4	2211.3
25°	2032.1	2058.8	2119.3	2155.6	2175.0
27.5°	1969.1	2003.0	2073.3	2114.5	2133.8
30°	1901.3	1940.1	2017.6	2066.0	2090.2
32.5°	1831.1	1877.1	1961.9	2015.2	2044.2
35°	1760.8	1811.7	1903.7	1966.7	1995.8
37.5°	1690.6	1741.5	1843.2	1911.0	1947.3
40°	1610.7	1671.2	1780.2	1855.3	1891.6
42.5°	1533.2	1598.6	1714.8	1797.2	1835.9
45°	1448.4	1525.9	1647.0	1739.0	1780.2
47.5°	1370.9	1448.4	1579.2	1676.1	1722.1
50°	1286.1	1368.5	1506.5	1613.1	1661.5
52.5°	1203.8	1288.5	1433.9	1547.7	1596.1
55°	1114.1	1211.0	1358.8	1477.5	1528.3
57.5°	1024.5	1128.7	1281.3	1404.8	1455.7
60°	937.3	1043.9	1203.8	1327.3	1380.6
62.5°	850.1	956.7	1123.8	1249.8	1300.6
65°	758.1	869.5	1036.6	1165.0	1215.9
67.5°	666.1	782.3	949.4	1077.8	1126.3
70°	569.2	692.7	859.8	985.8	1034.2
72.5°	479.6	603.1	767.8	891.3	937.3
75°	390.0	513.5	673.3	787.2	818.7
77.5°	302.8	426.3	569.2	644.3	651.5
80°	220.4	336.7	452.9	474.7	472.3
82.5°	147.7	251.9	312.4	314.9	322.1
85°	84.8	157.4	172.0	169.5	172.0
87.5°	33.9	55.7	48.4	36.3	36.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)