

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: P390029

Luminaire Tested: **22CZ2-100VHE-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: P390029  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-100VHE-HRP-UNV-L940-CD1-U  
Description: 2x2 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: 7329.3 lumens  
Efficiency: N/A  
Efficacy: 94.3 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

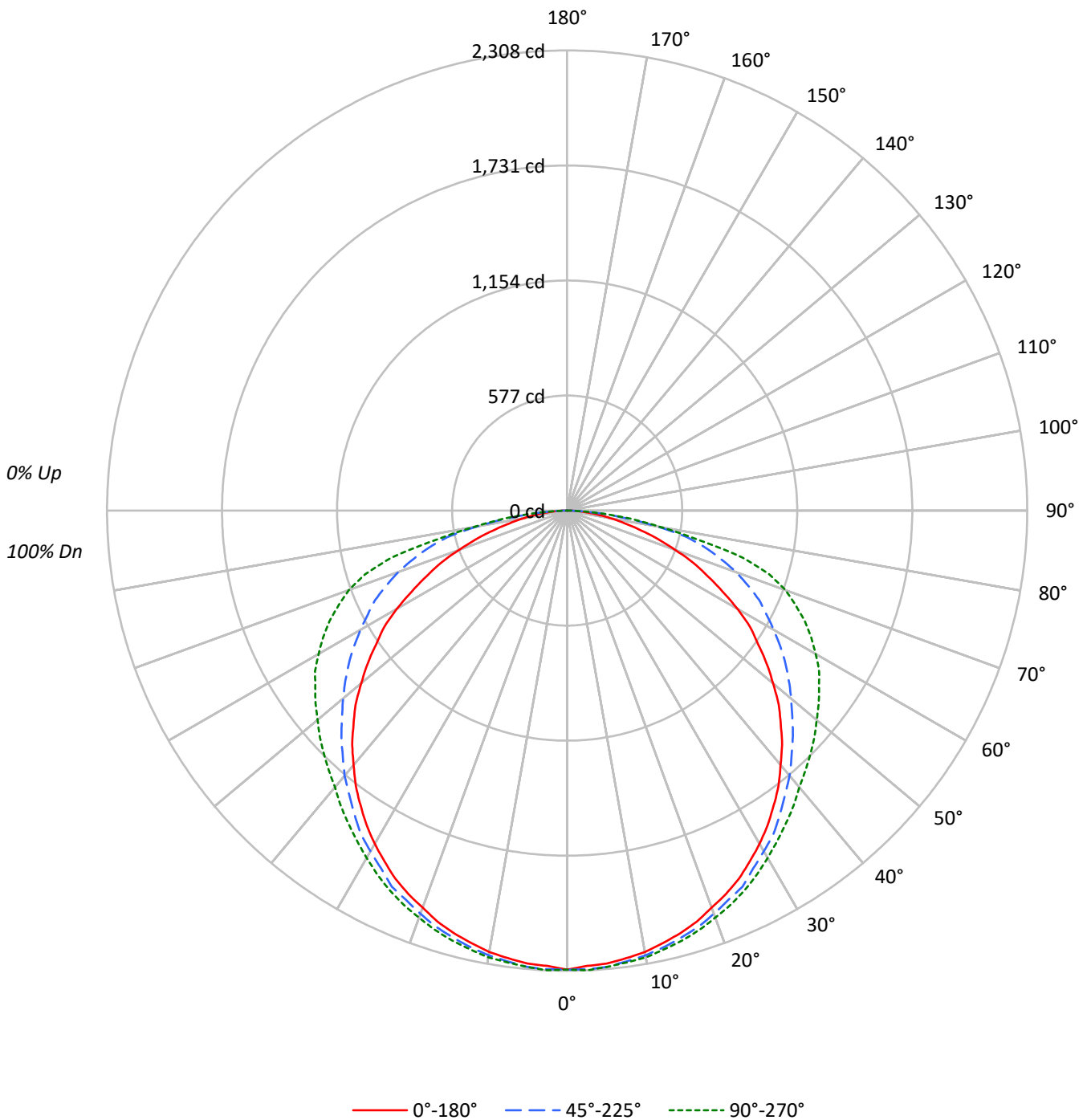
Input Watts (W): 77.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	92	89	92	89	86	88	86	84	82
2	97	88	81	75	95	86	80	74	83	77	72	80	75	71	76	72	69	67
3	88	77	68	61	86	75	67	61	72	65	60	70	64	59	67	62	58	55
4	80	68	59	51	78	66	58	51	64	56	50	61	55	50	59	54	49	47
5	74	60	51	44	72	59	50	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	44	38	51	43	38	50	43	37	48	42	37	35
7	63	49	40	33	61	48	39	33	47	39	33	45	38	33	44	37	33	31
8	59	45	36	30	57	44	35	30	43	35	29	41	34	29	40	34	29	27
9	55	41	32	27	53	40	32	27	39	32	26	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°	6195	6195	6195
5°	6161	6205	6205
10°	6143	6188	6217
15°	6113	6174	6219
20°	6068	6161	6222
25°	6051	6179	6244
30°	5998	6132	6249
35°	5934	6111	6288
40°	5852	6099	6364
45°	5766	6094	6566
50°	5643	6139	6839
55°	5489	6273	7234
60°	5310	6442	7748
65°	4944	6763	8377
70°	4539	7084	9163
75°	3980	7456	9474
80°	3426	7102	7437
85°	2998	5159	5659



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.8	3.0
10°-20°	625.3	8.5
20°-30°	954.0	13.0
30°-40°	1164.8	15.9
40°-50°	1245.5	17.0
50°-60°	1202.2	16.4
60°-70°	1034.9	14.1
70°-80°	700.2	9.6
80°-90°	184.7	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°	1797.1	24.5
0°-40°	2961.9	40.4
0°-60°	5409.5	73.8
0°-90°	7329.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7329.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2302	2302	2302	2302	2302	
5°	2281	2286	2297	2297	2297	217
15°	2194	2200	2216	2227	2232	619
25°	2038	2049	2081	2092	2103	938
35°	1806	1822	1860	1898	1914	1130
45°	1515	1542	1601	1682	1725	1169
55°	1170	1208	1337	1472	1542	1048
65°	776	852	1062	1229	1316	772
75°	383	507	717	863	911	411
85°	97	135	167	172	183	109
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2302.3	2302.3	2302.3	2302.3	2302.3
2.5°	2286.1	2291.5	2302.3	2302.3	2307.7
5°	2280.7	2286.1	2296.9	2296.9	2296.9
7.5°	2264.5	2269.9	2280.7	2286.1	2286.1
10°	2248.3	2253.7	2264.5	2269.9	2275.3
12.5°	2221.4	2226.8	2243.0	2253.7	2253.7
15°	2194.4	2199.8	2216.0	2226.8	2232.2
17.5°	2162.1	2172.9	2189.0	2199.8	2205.2
20°	2118.9	2129.7	2151.3	2167.5	2172.9
22.5°	2081.2	2092.0	2113.6	2129.7	2140.5
25°	2038.1	2048.9	2081.2	2092.0	2102.8
27.5°	1984.1	1994.9	2021.9	2043.5	2059.6
30°	1930.2	1941.0	1973.4	2000.3	2011.1
32.5°	1870.9	1887.1	1924.8	1946.4	1962.6
35°	1806.2	1822.4	1860.1	1897.9	1914.1
37.5°	1741.5	1757.7	1795.4	1844.0	1865.5
40°	1666.0	1687.6	1736.1	1800.8	1811.6
42.5°	1595.9	1622.9	1666.0	1741.5	1768.5
45°	1515.1	1542.0	1601.3	1682.2	1725.3
47.5°	1439.6	1466.5	1531.2	1628.3	1682.2
50°	1347.9	1385.7	1466.5	1579.8	1633.7
52.5°	1261.7	1294.0	1401.8	1525.9	1590.6
55°	1170.0	1207.7	1337.1	1471.9	1542.0
57.5°	1089.1	1121.5	1267.1	1418.0	1498.9
60°	986.7	1029.8	1197.0	1358.7	1439.6
62.5°	878.8	943.5	1126.9	1294.0	1380.3
65°	776.4	851.9	1062.2	1229.3	1315.6
67.5°	684.7	765.6	981.3	1159.2	1240.1
70°	576.9	679.4	900.4	1073.0	1164.6
72.5°	479.9	593.1	808.8	981.3	1062.2
75°	382.8	506.8	717.1	862.7	911.2
77.5°	296.5	415.2	614.7	657.8	663.2
80°	221.1	328.9	458.3	463.7	479.9
82.5°	151.0	231.8	296.5	323.5	328.9
85°	97.1	134.8	167.1	172.5	183.3
87.5°	43.1	48.5	59.3	53.9	53.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)