

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: P391614

Luminaire Tested: **24CZ2-70VHE-HRP-UNV-L950-CD1-SDWPD1-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: P391614  
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: 24CZ2-70VHE-HRP-UNV-L950-CD1-SDWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 5000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

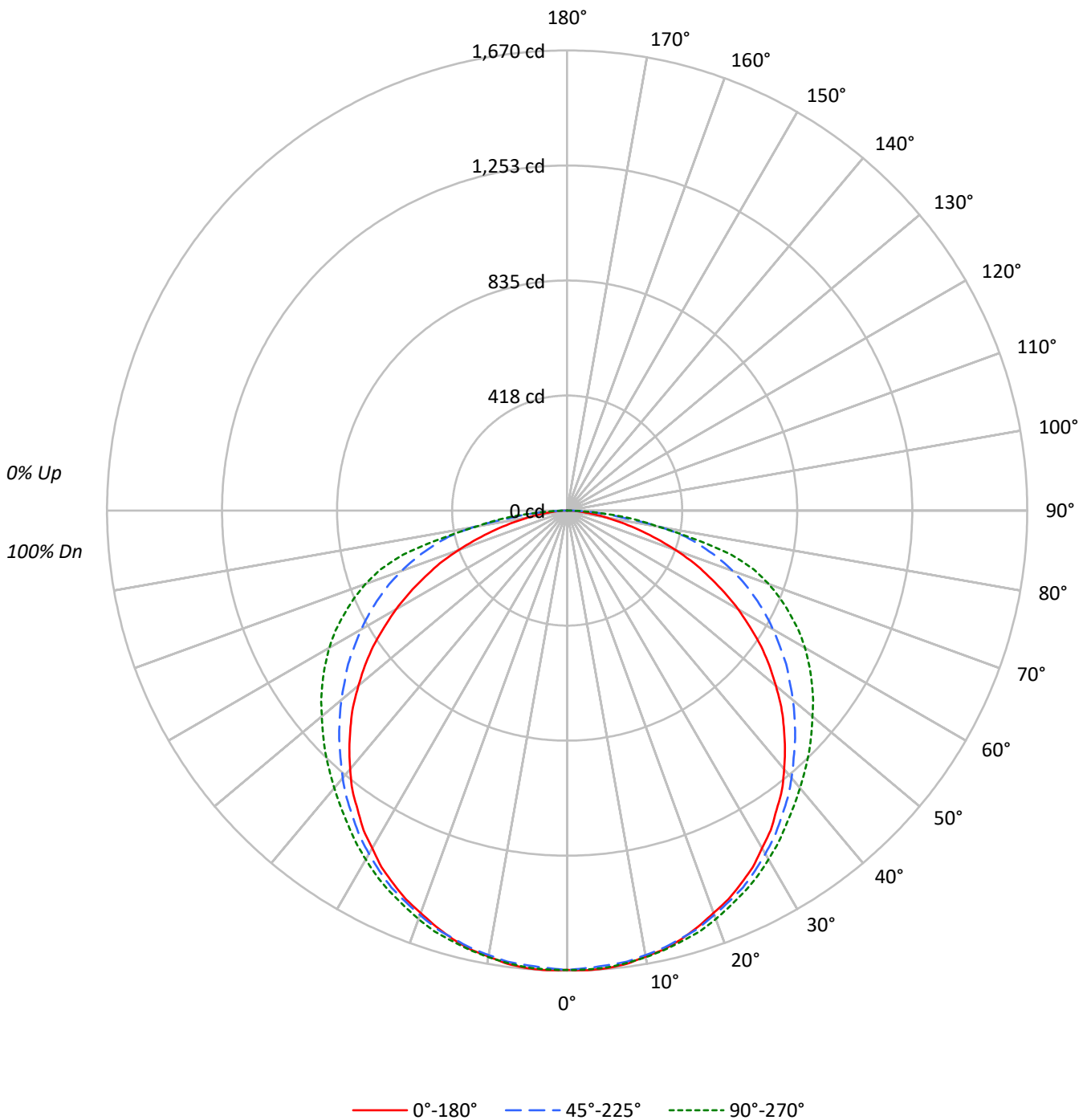
Lumens per Lamp: N/A  
Luminaire Lumens: 5300.8 lumens  
Efficiency: N/A  
Efficacy: 116.0 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 45.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	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°	2243	2243	2243
5°	2251	2237	2248
10°	2245	2238	2249
15°	2241	2238	2252
20°	2225	2236	2259
25°	2217	2241	2264
30°	2198	2234	2271
35°	2177	2228	2280
40°	2152	2226	2309
45°	2116	2226	2361
50°	2069	2240	2433
55°	2017	2276	2541
60°	1932	2321	2682
65°	1808	2402	2846
70°	1645	2513	3062
75°	1394	2652	3198
80°	1100	2669	2587
85°	812	2030	2272



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.1	3.0
10°-20°	455.1	8.6
20°-30°	695.9	13.1
30°-40°	850.7	16.0
40°-50°	906.7	17.1
50°-60°	866.9	16.4
60°-70°	734.4	13.9
70°-80°	493.6	9.3
80°-90°	139.2	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°	1309.1	24.7
0°-40°	2159.9	40.7
0°-60°	3933.6	74.2
0°-90°	5300.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5300.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1667	1667	1667	1667	1667	
5°	1667	1664	1656	1664	1664	158
15°	1609	1609	1606	1620	1617	454
25°	1493	1499	1509	1522	1525	688
35°	1325	1336	1357	1383	1388	830
45°	1112	1131	1170	1220	1241	858
55°	860	891	970	1046	1083	766
65°	568	626	755	854	894	564
75°	268	366	510	597	615	287
85°	53	108	132	142	147	65
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1667.0	1667.0	1667.0	1667.0	1667.0
2.5°	1669.6	1669.6	1661.7	1667.0	1667.0
5°	1667.0	1664.3	1656.4	1664.3	1664.3
7.5°	1659.1	1656.4	1651.2	1659.1	1656.4
10°	1643.3	1643.3	1638.0	1645.9	1645.9
12.5°	1630.1	1627.5	1624.9	1635.4	1632.8
15°	1609.1	1609.1	1606.5	1619.6	1617.0
17.5°	1582.8	1585.4	1588.1	1598.6	1601.2
20°	1553.9	1559.2	1561.8	1577.6	1577.6
22.5°	1527.6	1530.2	1535.5	1551.3	1551.3
25°	1493.4	1498.7	1509.2	1522.3	1525.0
27.5°	1459.2	1461.9	1475.0	1493.4	1496.0
30°	1414.5	1422.4	1438.2	1459.2	1461.9
32.5°	1375.1	1383.0	1401.4	1422.4	1427.7
35°	1325.1	1335.7	1356.7	1383.0	1388.2
37.5°	1280.4	1288.3	1314.6	1343.6	1351.4
40°	1225.2	1241.0	1267.3	1301.5	1314.6
42.5°	1170.0	1185.8	1217.3	1262.0	1277.8
45°	1112.2	1130.6	1170.0	1220.0	1241.0
47.5°	1054.3	1075.4	1120.1	1177.9	1201.6
50°	988.6	1014.9	1070.1	1135.8	1162.1
52.5°	925.5	957.1	1017.5	1091.1	1125.3
55°	859.8	891.3	970.2	1046.4	1083.3
57.5°	786.1	828.2	915.0	1001.7	1041.2
60°	717.8	757.2	862.4	957.1	996.5
62.5°	644.2	696.8	809.8	909.7	949.2
65°	567.9	625.8	754.6	854.5	893.9
67.5°	499.6	562.7	699.4	799.3	838.7
70°	418.1	496.9	638.9	738.8	778.3
72.5°	341.8	428.6	575.8	673.1	709.9
75°	268.2	365.5	510.1	596.8	615.2
77.5°	199.8	302.4	441.7	478.5	465.4
80°	142.0	241.9	344.4	326.0	333.9
82.5°	92.0	184.0	213.0	241.9	249.8
85°	52.6	107.8	131.5	142.0	147.2
87.5°	23.7	39.4	52.6	52.6	50.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)