

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: P391369

Luminaire Tested: **24CZ2-45VHE-HRP-UNV-L935-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: P391369  
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: 24CZ2-45VHE-HRP-UNV-L935-CD1-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 3500K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3231.3 lumens  
Efficiency: N/A  
Efficacy: 109.2 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

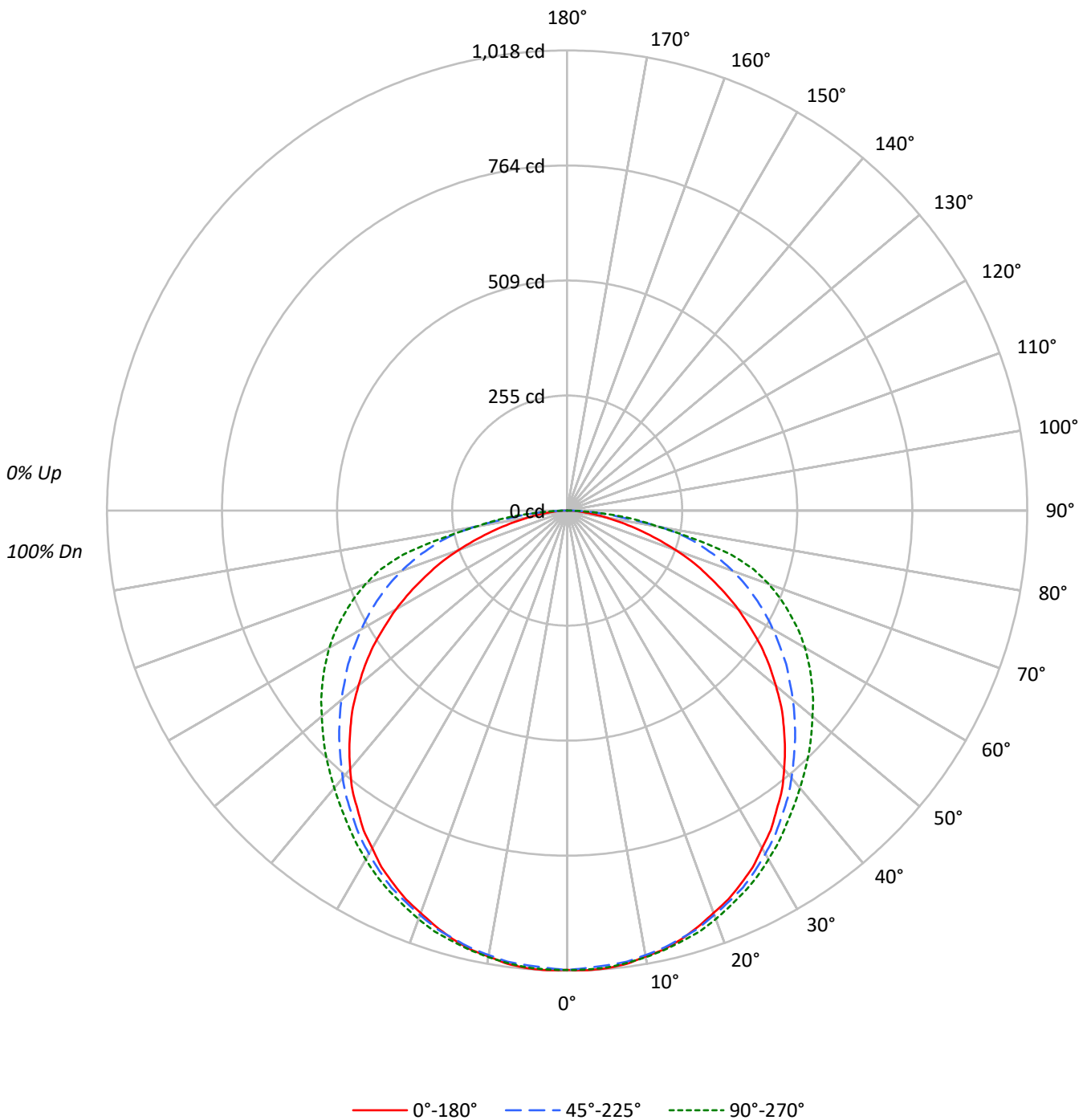
Input Watts (W): 29.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1367	1367	1367
5°	1373	1364	1370
10°	1369	1364	1371
15°	1366	1364	1373
20°	1356	1363	1377
25°	1352	1366	1380
30°	1340	1362	1384
35°	1327	1358	1390
40°	1312	1357	1408
45°	1290	1357	1439
50°	1261	1365	1483
55°	1229	1387	1549
60°	1178	1415	1635
65°	1102	1465	1735
70°	1002	1532	1866
75°	850	1616	1949
80°	670	1627	1578
85°	496	1237	1386



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.4	3.0
10°-20°	277.4	8.6
20°-30°	424.2	13.1
30°-40°	518.6	16.0
40°-50°	552.7	17.1
50°-60°	528.5	16.4
60°-70°	447.7	13.9
70°-80°	300.9	9.3
80°-90°	84.9	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°	798.0	24.7
0°-40°	1316.6	40.7
0°-60°	2397.8	74.2
0°-90°	3231.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3231.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1016	1016	1016	1016	1016	
5°	1016	1014	1010	1014	1014	97
15°	981	981	979	987	986	277
25°	910	914	920	928	930	420
35°	808	814	827	843	846	506
45°	678	689	713	744	756	523
55°	524	543	591	638	660	467
65°	346	382	460	521	545	344
75°	164	223	311	364	375	175
85°	32	66	80	86	90	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1016.2	1016.2	1016.2	1016.2	1016.2
2.5°	1017.8	1017.8	1012.9	1016.2	1016.2
5°	1016.2	1014.5	1009.7	1014.5	1014.5
7.5°	1011.3	1009.7	1006.5	1011.3	1009.7
10°	1001.7	1001.7	998.5	1003.3	1003.3
12.5°	993.7	992.1	990.5	996.9	995.3
15°	980.9	980.9	979.3	987.3	985.7
17.5°	964.9	966.5	968.1	974.5	976.1
20°	947.2	950.4	952.0	961.7	961.7
22.5°	931.2	932.8	936.0	945.6	945.6
25°	910.4	913.6	920.0	928.0	929.6
27.5°	889.5	891.1	899.1	910.4	912.0
30°	862.3	867.1	876.7	889.5	891.1
32.5°	838.2	843.1	854.3	867.1	870.3
35°	807.8	814.2	827.0	843.1	846.3
37.5°	780.5	785.4	801.4	819.0	823.8
40°	746.9	756.5	772.5	793.4	801.4
42.5°	713.2	722.8	742.1	769.3	778.9
45°	678.0	689.2	713.2	743.7	756.5
47.5°	642.7	655.5	682.8	718.0	732.5
50°	602.6	618.7	652.3	692.4	708.4
52.5°	564.2	583.4	620.3	665.1	686.0
55°	524.1	543.3	591.4	637.9	660.3
57.5°	479.2	504.9	557.8	610.7	634.7
60°	437.6	461.6	525.7	583.4	607.4
62.5°	392.7	424.7	493.7	554.6	578.6
65°	346.2	381.5	460.0	520.9	544.9
67.5°	304.5	343.0	426.3	487.2	511.3
70°	254.8	302.9	389.5	450.4	474.4
72.5°	208.4	261.3	351.0	410.3	432.7
75°	163.5	222.8	310.9	363.8	375.0
77.5°	121.8	184.3	269.3	291.7	283.7
80°	86.5	147.5	210.0	198.7	203.6
82.5°	56.1	112.2	129.8	147.5	152.3
85°	32.1	65.7	80.1	86.5	89.8
87.5°	14.4	24.0	32.1	32.1	30.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)