

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: P391397

Luminaire Tested: **24CZ2-45VHE-RDP-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: P391397  
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-RDP-UNV-L940-CD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND RDP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2619.2 lumens  
Efficiency: N/A  
Efficacy: 88.5 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

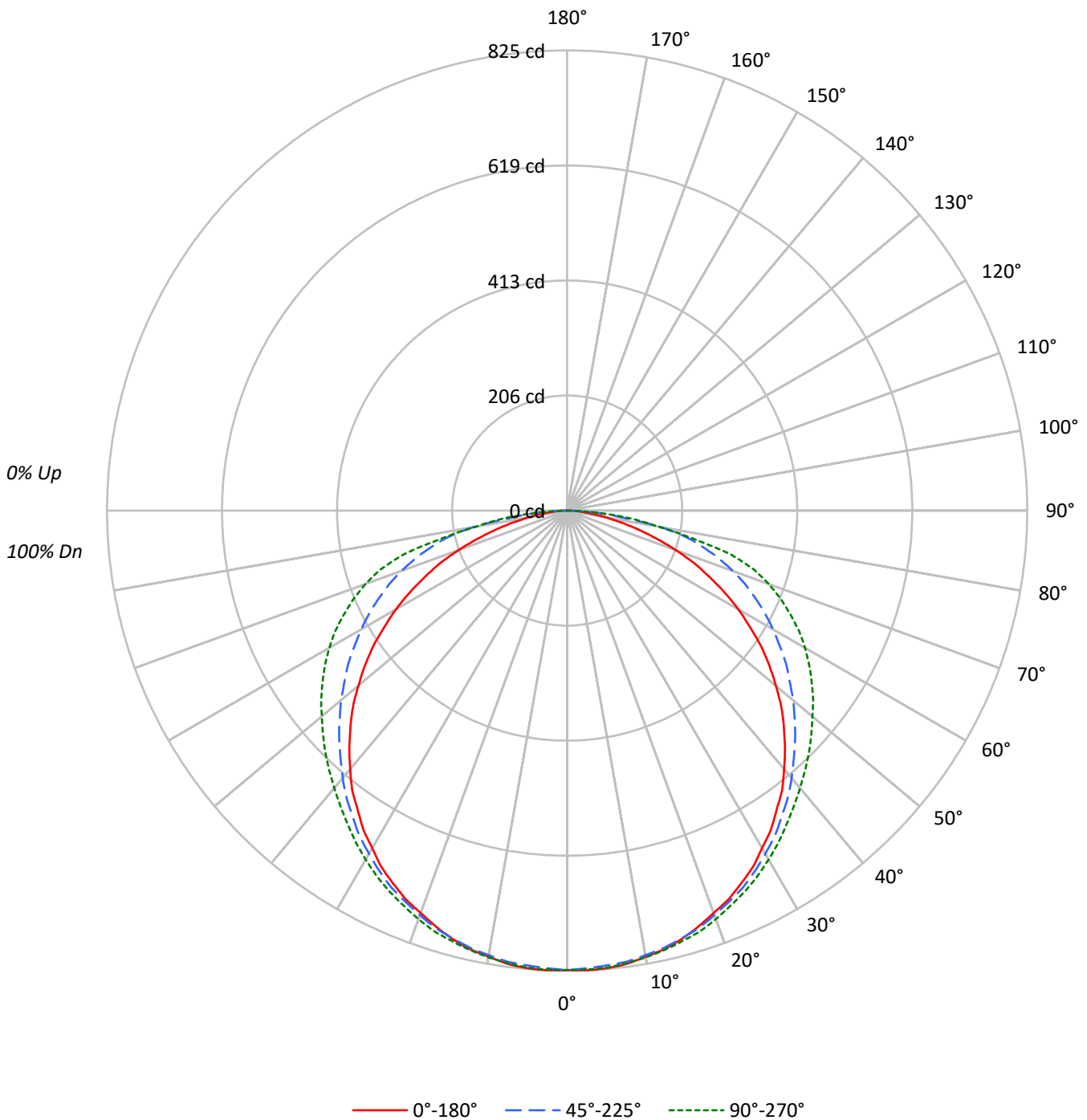
Input Watts (W): 29.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1108	1108	1108
5°	1113	1105	1111
10°	1109	1106	1111
15°	1108	1106	1113
20°	1099	1105	1116
25°	1095	1107	1119
30°	1086	1104	1122
35°	1076	1101	1127
40°	1063	1100	1141
45°	1046	1100	1167
50°	1023	1107	1202
55°	996	1125	1256
60°	954	1147	1325
65°	893	1187	1406
70°	813	1242	1513
75°	689	1310	1580
80°	544	1319	1278
85°	401	1003	1124



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.1	3.0
10°-20°	224.9	8.6
20°-30°	343.9	13.1
30°-40°	420.4	16.0
40°-50°	448.0	17.1
50°-60°	428.4	16.4
60°-70°	362.9	13.9
70°-80°	243.9	9.3
80°-90°	68.8	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°	646.9	24.7
0°-40°	1067.2	40.7
0°-60°	1943.6	74.2
0°-90°	2619.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2619.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	824	824	824	824	824	
5°	824	822	818	822	822	78
15°	795	795	794	800	799	224
25°	738	740	746	752	754	340
35°	655	660	670	683	686	410
45°	550	559	578	603	613	424
55°	425	440	479	517	535	378
65°	281	309	373	422	442	279
75°	132	181	252	295	304	142
85°	26	53	65	70	73	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	823.7	823.7	823.7	823.7	823.7
2.5°	825.0	825.0	821.1	823.7	823.7
5°	823.7	822.4	818.5	822.4	822.4
7.5°	819.8	818.5	815.9	819.8	818.5
10°	812.0	812.0	809.4	813.3	813.3
12.5°	805.5	804.2	802.9	808.1	806.8
15°	795.1	795.1	793.8	800.3	799.0
17.5°	782.1	783.4	784.7	789.9	791.2
20°	767.8	770.4	771.7	779.5	779.5
22.5°	754.8	756.1	758.7	766.5	766.5
25°	737.9	740.5	745.7	752.2	753.5
27.5°	721.0	722.3	728.8	737.9	739.2
30°	698.9	702.8	710.6	721.0	722.3
32.5°	679.5	683.4	692.4	702.8	705.4
35°	654.8	660.0	670.4	683.4	686.0
37.5°	632.7	636.6	649.6	663.9	667.8
40°	605.4	613.2	626.2	643.1	649.6
42.5°	578.1	585.9	601.5	623.6	631.4
45°	549.5	558.6	578.1	602.8	613.2
47.5°	521.0	531.4	553.4	582.0	593.7
50°	488.5	501.5	528.8	561.2	574.2
52.5°	457.3	472.9	502.8	539.1	556.0
55°	424.8	440.4	479.4	517.1	535.3
57.5°	388.4	409.2	452.1	495.0	514.5
60°	354.7	374.2	426.1	472.9	492.4
62.5°	318.3	344.3	400.1	449.5	469.0
65°	280.6	309.2	372.9	422.2	441.7
67.5°	246.8	278.0	345.6	394.9	414.4
70°	206.6	245.5	315.7	365.1	384.5
72.5°	168.9	211.8	284.5	332.6	350.8
75°	132.5	180.6	252.0	294.9	304.0
77.5°	98.7	149.4	218.3	236.4	230.0
80°	70.2	119.5	170.2	161.1	165.0
82.5°	45.5	90.9	105.2	119.5	123.4
85°	26.0	53.3	65.0	70.2	72.8
87.5°	11.7	19.5	26.0	26.0	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)