

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: P391781

Luminaire Tested: **24CZ2-85VHE-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: P391781  
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: 24CZ2-85VHE-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: 4940.9 lumens  
Efficiency: N/A  
Efficacy: 85.3 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

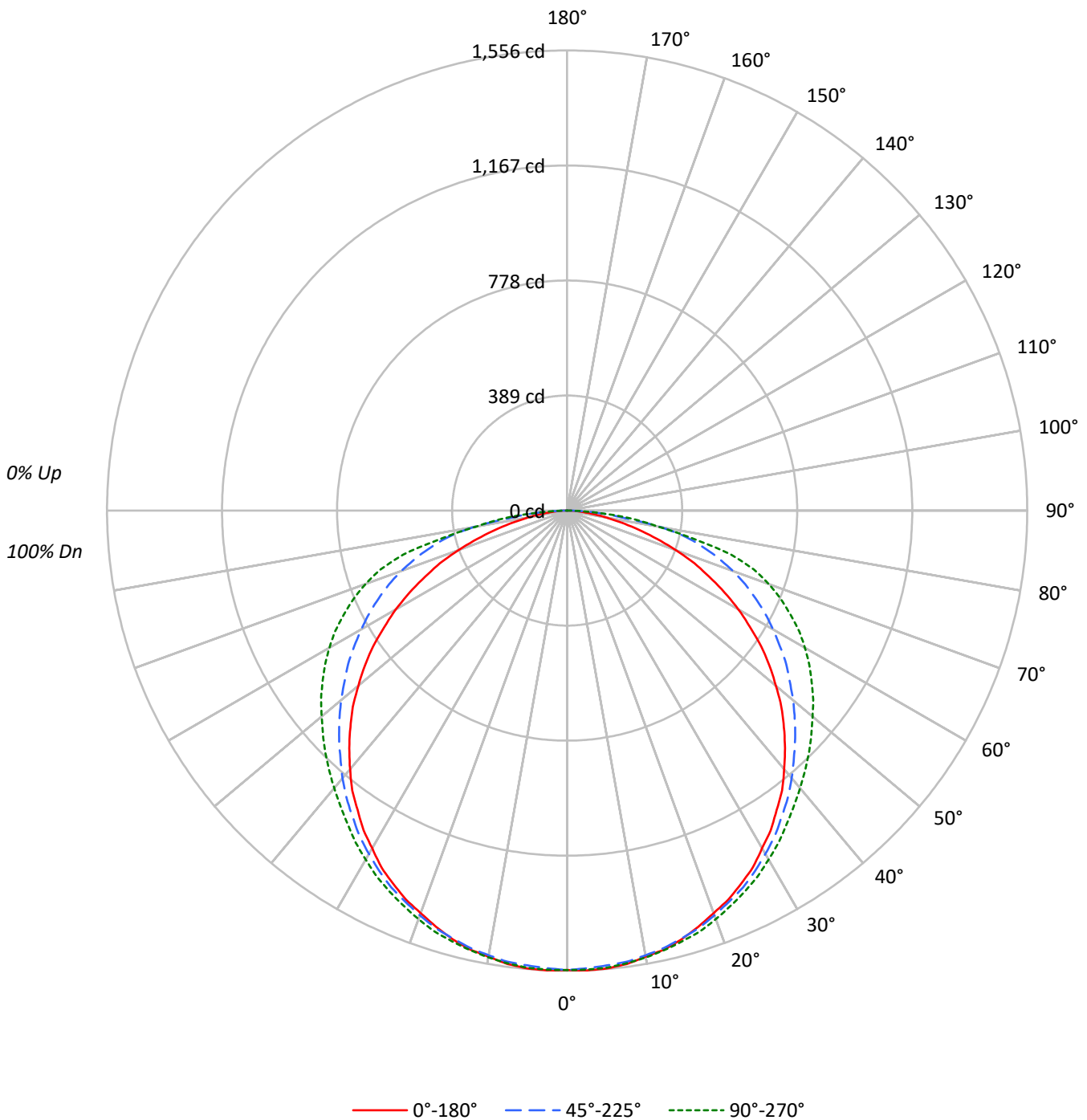
Input Watts (W): 57.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2091	2091	2091
5°	2099	2085	2095
10°	2093	2086	2096
15°	2089	2086	2099
20°	2074	2084	2105
25°	2067	2088	2110
30°	2048	2083	2117
35°	2029	2077	2125
40°	2006	2075	2152
45°	1973	2075	2201
50°	1929	2088	2267
55°	1880	2121	2369
60°	1801	2163	2499
65°	1685	2239	2653
70°	1533	2343	2854
75°	1300	2471	2981
80°	1025	2487	2411
85°	756	1891	2118



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.4	3.0
10°-20°	424.2	8.6
20°-30°	648.7	13.1
30°-40°	793.0	16.0
40°-50°	845.2	17.1
50°-60°	808.1	16.4
60°-70°	684.6	13.9
70°-80°	460.1	9.3
80°-90°	129.8	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°	1220.2	24.7
0°-40°	2013.2	40.7
0°-60°	3666.5	74.2
0°-90°	4940.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4940.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1554	1554	1554	1554	1554	
5°	1554	1551	1544	1551	1551	148
15°	1500	1500	1497	1510	1507	423
25°	1392	1397	1407	1419	1421	642
35°	1235	1245	1265	1289	1294	774
45°	1037	1054	1091	1137	1157	800
55°	801	831	904	975	1010	714
65°	529	583	703	796	833	526
75°	250	341	475	556	574	268
85°	49	100	122	132	137	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1553.8	1553.8	1553.8	1553.8	1553.8
2.5°	1556.2	1556.2	1548.9	1553.8	1553.8
5°	1553.8	1551.3	1544.0	1551.3	1551.3
7.5°	1546.4	1544.0	1539.1	1546.4	1544.0
10°	1531.7	1531.7	1526.8	1534.2	1534.2
12.5°	1519.5	1517.0	1514.6	1524.4	1521.9
15°	1499.9	1499.9	1497.4	1509.7	1507.2
17.5°	1475.3	1477.8	1480.2	1490.1	1492.5
20°	1448.4	1453.3	1455.7	1470.4	1470.4
22.5°	1423.9	1426.3	1431.2	1445.9	1445.9
25°	1392.0	1396.9	1406.7	1419.0	1421.4
27.5°	1360.2	1362.6	1374.9	1392.0	1394.5
30°	1318.5	1325.9	1340.6	1360.2	1362.6
32.5°	1281.7	1289.1	1306.2	1325.9	1330.8
35°	1235.2	1245.0	1264.6	1289.1	1294.0
37.5°	1193.5	1200.9	1225.4	1252.3	1259.7
40°	1142.0	1156.8	1181.3	1213.1	1225.4
42.5°	1090.6	1105.3	1134.7	1176.4	1191.1
45°	1036.7	1053.8	1090.6	1137.1	1156.8
47.5°	982.7	1002.4	1044.0	1097.9	1120.0
50°	921.5	946.0	997.5	1058.7	1083.2
52.5°	862.7	892.1	948.4	1017.1	1048.9
55°	801.4	830.8	904.3	975.4	1009.7
57.5°	732.8	772.0	852.9	933.7	970.5
60°	669.1	705.8	803.8	892.1	928.8
62.5°	600.4	649.4	754.8	848.0	884.7
65°	529.4	583.3	703.4	796.5	833.3
67.5°	465.6	524.5	651.9	745.0	781.8
70°	389.7	463.2	595.5	688.7	725.4
72.5°	318.6	399.5	536.7	627.4	661.7
75°	250.0	340.7	475.4	556.3	573.5
77.5°	186.3	281.8	411.7	446.0	433.8
80°	132.3	225.5	321.0	303.9	311.2
82.5°	85.8	171.6	198.5	225.5	232.8
85°	49.0	100.5	122.5	132.3	137.2
87.5°	22.1	36.8	49.0	49.0	46.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)