

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: P474135

Luminaire Tested: **24CZ2-45VHE-S-UNV-L850-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474135  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45VHE-S-UNV-L850-CD1-U  
Description: 2'X4' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

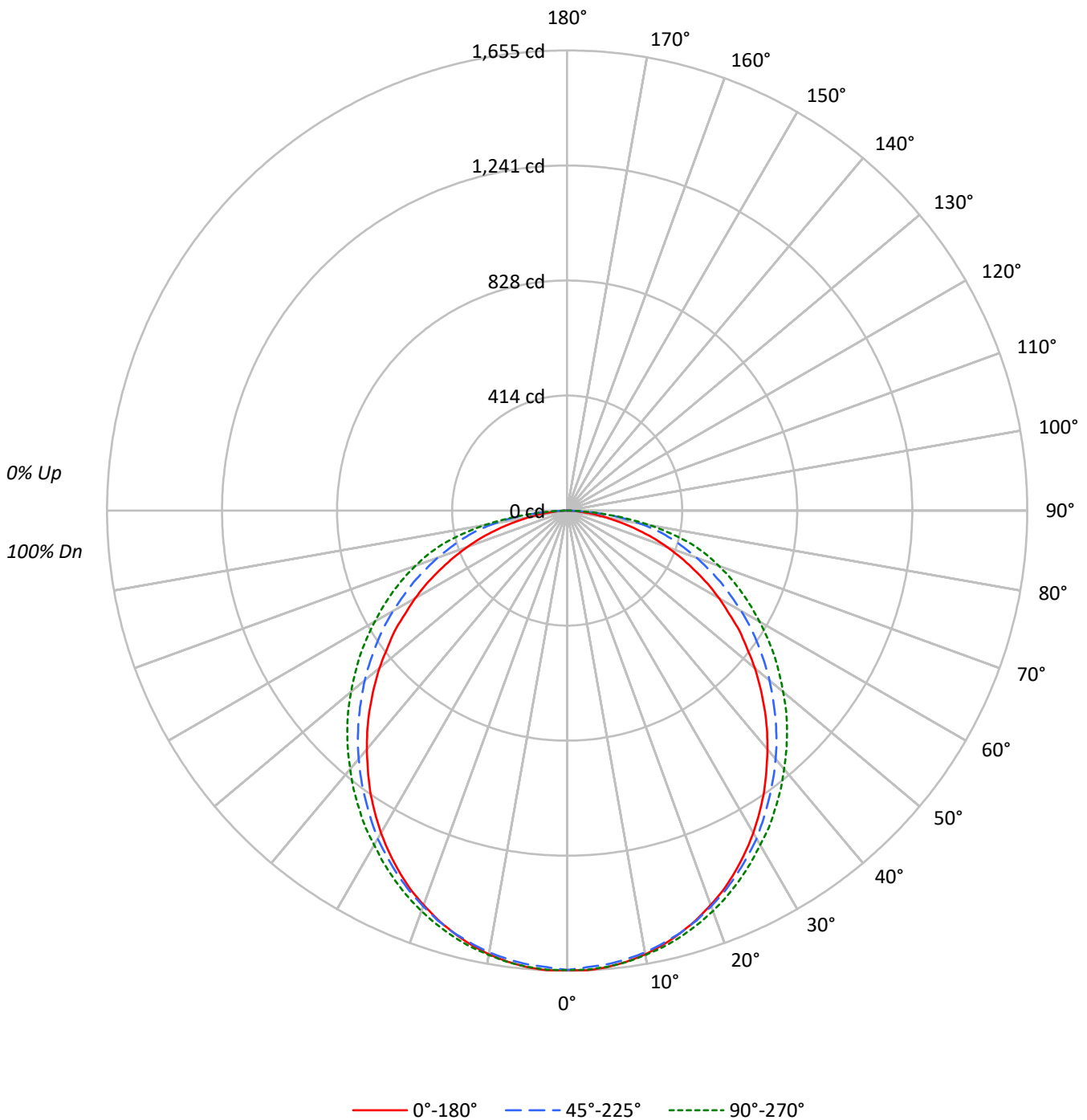
Lumens per Lamp: N/A  
Luminaire Lumens: 4734.4 lumens  
Efficiency: N/A  
Efficacy: 154.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.7  
Input Voltage (V): 120  
Input Current (Ain): 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	99	95	105	101	97	93	97	93	90		93	90	87		89	87	85	83
2	98	90	83	77	95	88	81	76	84	79	74		81	76	72		78	74	71	68
3	89	78	70	63	87	77	69	63	74	67	62		71	65	61		68	64	59	57
4	82	69	60	54	79	68	60	53	66	58	52		63	57	52		61	55	51	49
5	75	62	53	46	73	61	52	46	59	51	45		57	50	45		55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40		51	44	39		50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35		47	40	35		45	39	34	32
8	60	46	38	32	58	45	37	31	44	37	31		43	36	31		42	35	31	29
9	56	42	34	28	54	42	34	28	41	33	28		39	33	28		38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26		37	30	25		36	30	25	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2223	2223	2223
5°	2227	2213	2225
10°	2214	2205	2217
15°	2191	2190	2209
20°	2161	2168	2195
25°	2125	2144	2177
30°	2080	2117	2157
35°	2028	2079	2145
40°	1968	2049	2132
45°	1909	2017	2128
50°	1844	1989	2123
55°	1779	1965	2134
60°	1697	1946	2149
65°	1607	1939	2201
70°	1499	1949	2279
75°	1334	2005	2401
80°	1091	2049	2344
85°	769	1789	1825



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.2	3.3
10°-20°	445.0	9.4
20°-30°	667.0	14.1
30°-40°	794.4	16.8
40°-50°	819.1	17.3
50°-60°	747.4	15.8
60°-70°	597.7	12.6
70°-80°	390.4	8.2
80°-90°	117.2	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°	1268.2	26.8
0°-40°	2062.6	43.6
0°-60°	3629.1	76.7
0°-90°	4734.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4734.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1652	1652	1652	1652	1652	
5°	1649	1646	1638	1649	1647	156
15°	1573	1574	1572	1586	1586	443
25°	1432	1434	1444	1465	1467	659
35°	1235	1244	1266	1298	1306	771
45°	1003	1021	1060	1104	1118	774
55°	758	780	838	893	910	675
65°	505	539	609	669	691	500
75°	257	299	386	448	462	273
85°	50	89	116	118	118	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1652.5	1652.5	1652.5	1652.5	1652.5
2.5°	1654.9	1652.5	1644.0	1654.1	1652.5
5°	1648.6	1645.5	1638.5	1648.6	1647.1
7.5°	1636.2	1634.6	1627.6	1639.3	1637.7
10°	1620.6	1619.1	1613.6	1625.3	1623.0
12.5°	1598.9	1598.1	1594.2	1608.2	1606.6
15°	1573.2	1574.0	1572.4	1585.6	1585.6
17.5°	1543.6	1542.9	1546.0	1562.3	1560.8
20°	1509.4	1510.2	1514.1	1532.8	1532.8
22.5°	1473.7	1472.9	1481.4	1500.1	1501.7
25°	1431.7	1434.0	1444.1	1465.1	1466.7
27.5°	1386.6	1390.5	1402.9	1427.0	1429.3
30°	1339.1	1343.8	1362.5	1385.0	1388.1
32.5°	1287.0	1297.1	1314.2	1343.0	1350.8
35°	1234.9	1243.5	1266.0	1297.9	1305.7
37.5°	1177.4	1191.4	1217.0	1252.0	1262.1
40°	1120.6	1134.6	1166.5	1203.0	1213.9
42.5°	1063.1	1077.8	1114.4	1155.6	1167.3
45°	1003.2	1021.1	1059.9	1104.3	1118.3
47.5°	941.7	962.7	1004.7	1052.9	1068.5
50°	881.1	902.1	950.3	1000.1	1014.1
52.5°	815.8	842.2	893.5	947.2	961.2
55°	758.2	780.0	837.5	892.8	909.9
57.5°	690.6	720.1	781.5	837.5	853.9
60°	630.7	657.9	723.2	780.0	798.7
62.5°	570.0	598.0	663.3	727.9	745.0
65°	504.7	538.9	608.9	668.8	691.3
67.5°	442.5	478.3	549.8	613.6	636.9
70°	381.1	417.6	495.4	560.7	579.4
72.5°	320.4	358.5	439.4	503.1	524.9
75°	256.6	299.4	385.7	447.9	461.9
77.5°	196.7	244.2	331.3	373.3	383.4
80°	140.8	192.9	264.4	294.7	302.5
82.5°	92.5	143.1	197.5	213.9	211.5
85°	49.8	89.4	115.9	118.2	118.2
87.5°	19.4	35.8	36.5	28.0	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)