

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: P473972

Luminaire Tested: **24CZ2-45HE-S-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P473972  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45HE-S-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SMOOTH LENS  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4638.0 lumens  
Efficiency: N/A  
Efficacy: 131.4 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

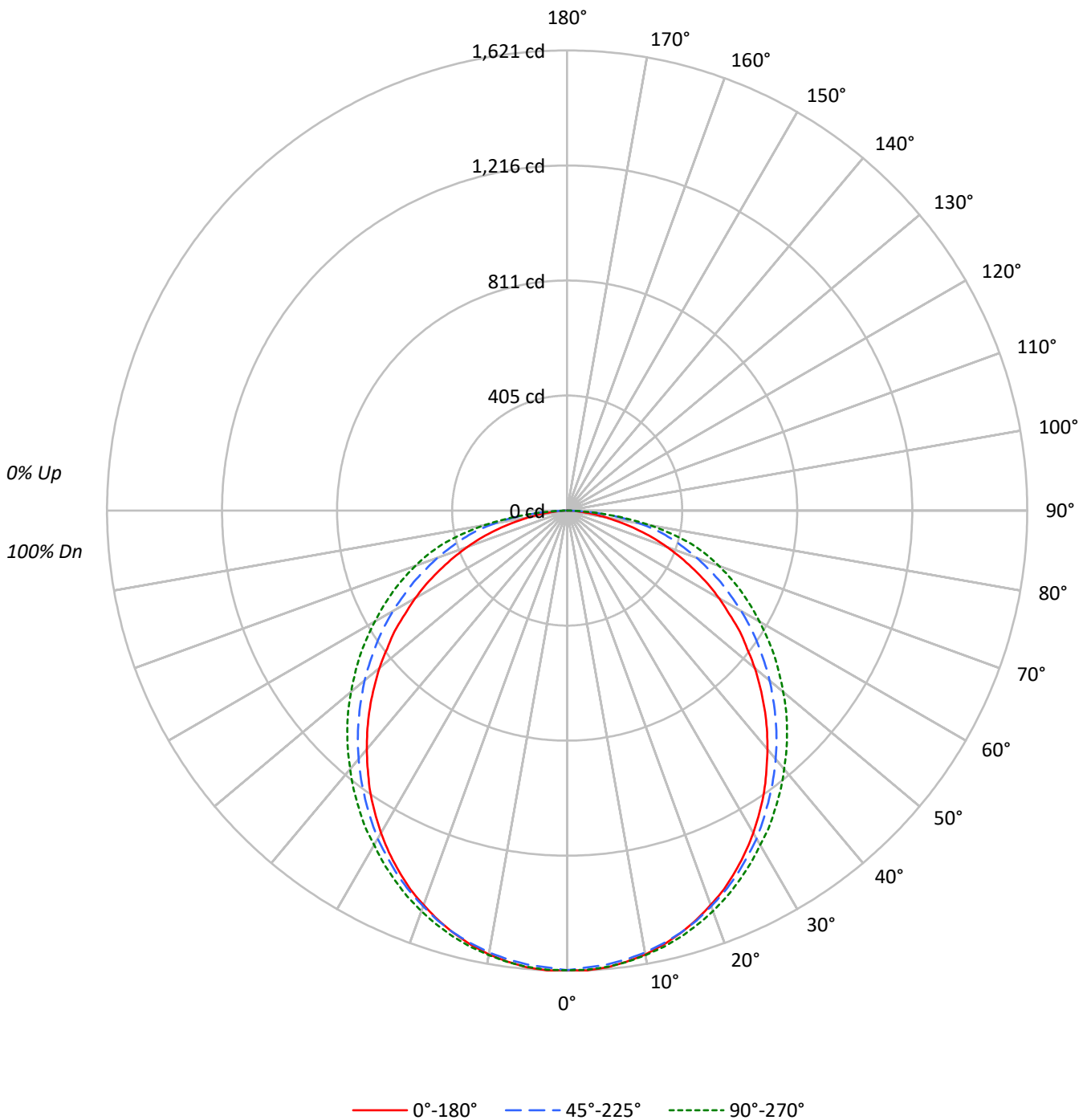
Input Watts (W): 35.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2178	2178	2178
5°	2181	2168	2179
10°	2169	2160	2172
15°	2147	2146	2164
20°	2117	2124	2150
25°	2082	2100	2133
30°	2038	2074	2113
35°	1987	2037	2101
40°	1928	2007	2089
45°	1870	1976	2085
50°	1807	1949	2079
55°	1742	1925	2091
60°	1662	1907	2105
65°	1574	1899	2156
70°	1469	1909	2233
75°	1307	1965	2352
80°	1068	2007	2297
85°	753	1752	1788



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.1	3.3
10°-20°	435.9	9.4
20°-30°	653.4	14.1
30°-40°	778.2	16.8
40°-50°	802.4	17.3
50°-60°	732.2	15.8
60°-70°	585.5	12.6
70°-80°	382.4	8.2
80°-90°	114.8	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°	1242.4	26.8
0°-40°	2020.6	43.6
0°-60°	3555.3	76.7
0°-90°	4638.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4638.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1619	1619	1619	1619	1619	
5°	1615	1612	1605	1615	1614	153
15°	1541	1542	1540	1553	1553	434
25°	1402	1405	1415	1435	1437	646
35°	1210	1218	1240	1272	1279	756
45°	983	1000	1038	1082	1096	758
55°	743	764	820	875	891	662
65°	494	528	596	655	677	490
75°	251	293	378	439	452	267
85°	49	88	114	116	116	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1618.9	1618.9	1618.9	1618.9	1618.9
2.5°	1621.2	1618.9	1610.5	1620.4	1618.9
5°	1615.1	1612.0	1605.2	1615.1	1613.6
7.5°	1602.9	1601.4	1594.5	1605.9	1604.4
10°	1587.7	1586.1	1580.8	1592.2	1589.9
12.5°	1566.3	1565.6	1561.8	1575.5	1573.9
15°	1541.2	1541.9	1540.4	1553.4	1553.4
17.5°	1512.2	1511.5	1514.5	1530.5	1529.0
20°	1478.7	1479.5	1483.3	1501.6	1501.6
22.5°	1443.7	1442.9	1451.3	1469.6	1471.1
25°	1402.5	1404.8	1414.7	1435.3	1436.8
27.5°	1358.3	1362.2	1374.3	1398.0	1400.2
30°	1311.9	1316.4	1334.7	1356.8	1359.9
32.5°	1260.8	1270.7	1287.5	1315.7	1323.3
35°	1209.8	1218.2	1240.3	1271.5	1279.1
37.5°	1153.4	1167.1	1192.3	1226.5	1236.5
40°	1097.8	1111.5	1142.7	1178.6	1189.2
42.5°	1041.4	1055.9	1091.7	1132.1	1143.5
45°	982.8	1000.3	1038.4	1081.8	1095.5
47.5°	922.6	943.1	984.3	1031.5	1046.8
50°	863.2	883.7	931.0	979.7	993.4
52.5°	799.2	825.1	875.3	927.9	941.6
55°	742.8	764.1	820.5	874.6	891.3
57.5°	676.5	705.5	765.6	820.5	836.5
60°	617.8	644.5	708.5	764.1	782.4
62.5°	558.4	585.8	649.8	713.1	729.8
65°	494.4	527.9	596.5	655.2	677.3
67.5°	433.5	468.5	538.6	601.1	623.9
70°	373.3	409.1	485.3	549.3	567.6
72.5°	313.9	351.2	430.4	492.9	514.2
75°	251.4	293.3	377.9	438.8	452.5
77.5°	192.7	239.2	324.5	365.7	375.6
80°	137.9	188.9	259.0	288.7	296.4
82.5°	90.7	140.2	193.5	209.5	207.2
85°	48.8	87.6	113.5	115.8	115.8
87.5°	19.0	35.0	35.8	27.4	25.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)