

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: P474364

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474364  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-45-HRP-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS W/ HRP INSERT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

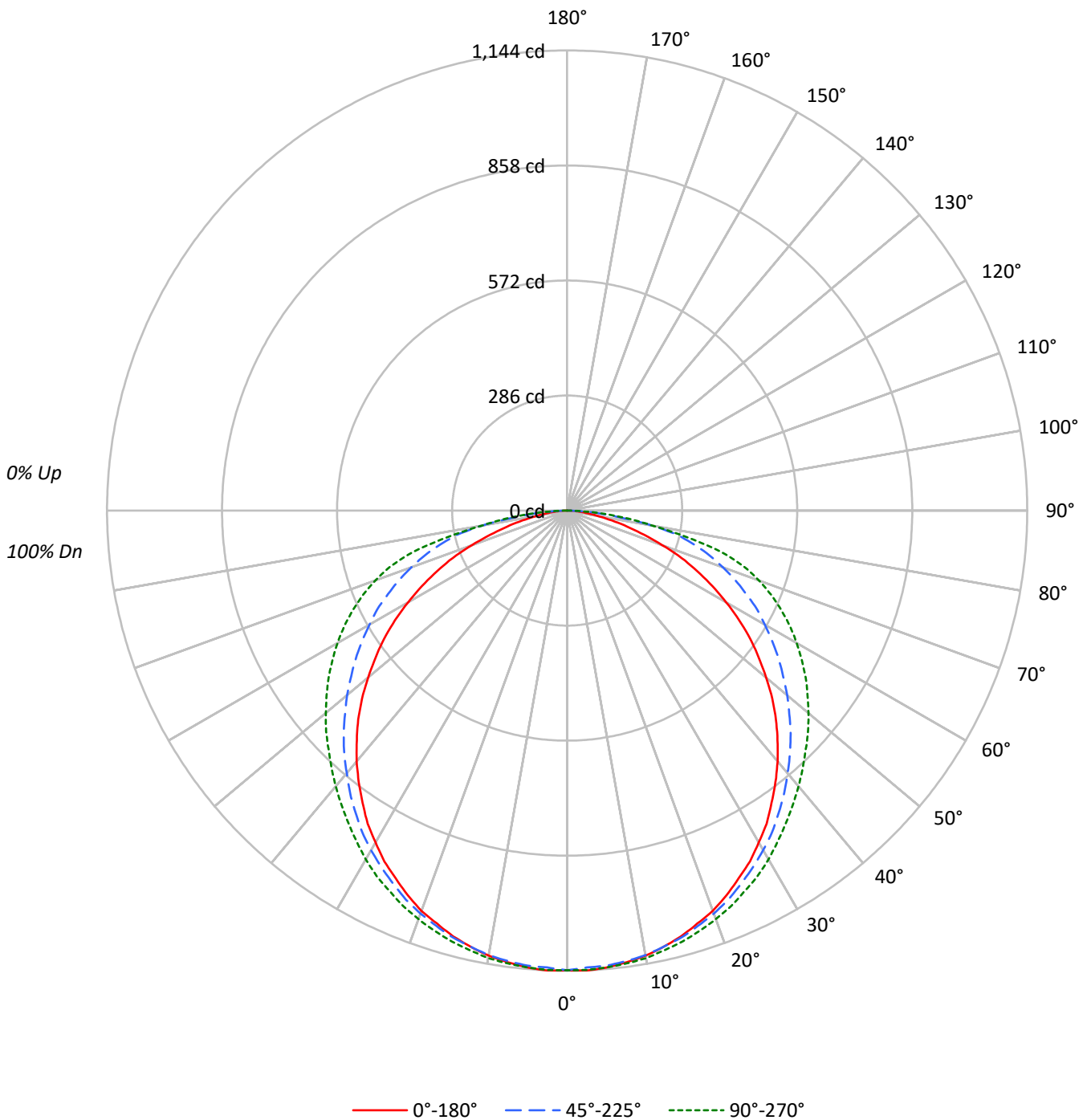
Lumens per Lamp: N/A  
Luminaire Lumens: 3522.6 lumens  
Efficiency: N/A  
Efficacy: 100.9 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 34.9  
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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

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

	0°	45°	90°
0°	1538	1538	1538
5°	1540	1534	1540
10°	1535	1533	1543
15°	1526	1530	1545
20°	1516	1527	1548
25°	1497	1519	1550
30°	1480	1514	1556
35°	1456	1507	1558
40°	1430	1497	1572
45°	1397	1496	1597
50°	1352	1494	1639
55°	1304	1505	1699
60°	1230	1528	1774
65°	1136	1564	1874
70°	992	1618	1996
75°	805	1702	2062
80°	594	1669	1669
85°	455	1229	1388



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.3	3.1
10°-20°	310.9	8.8
20°-30°	473.3	13.4
30°-40°	574.7	16.3
40°-50°	607.2	17.2
50°-60°	573.0	16.3
60°-70°	476.4	13.5
70°-80°	313.4	8.9
80°-90°	85.4	2.4
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°	892.5	25.3
0°-40°	1467.2	41.7
0°-60°	2647.4	75.2
0°-90°	3522.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3522.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1143	1143	1143	1143	1143	
5°	1140	1140	1136	1140	1140	108
15°	1096	1097	1099	1109	1109	309
25°	1009	1015	1024	1041	1044	465
35°	886	897	917	941	948	555
45°	734	749	786	824	839	566
55°	556	580	642	702	724	495
65°	357	398	491	563	588	353
75°	155	226	327	388	397	167
85°	30	65	80	88	90	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1142.9	1142.9	1142.9	1142.9	1142.9
2.5°	1144.4	1142.9	1137.0	1142.9	1142.9
5°	1140.0	1140.0	1135.5	1140.0	1140.0
7.5°	1132.6	1132.6	1129.6	1135.5	1135.5
10°	1123.7	1123.7	1122.3	1129.6	1129.6
12.5°	1110.5	1111.9	1110.5	1119.3	1119.3
15°	1095.7	1097.2	1098.7	1109.0	1109.0
17.5°	1076.6	1079.5	1082.5	1094.2	1095.7
20°	1058.9	1060.3	1066.2	1079.5	1081.0
22.5°	1035.3	1039.7	1047.1	1060.3	1064.8
25°	1008.7	1014.6	1023.5	1041.2	1044.1
27.5°	983.7	988.1	999.9	1019.1	1025.0
30°	952.7	960.1	974.7	994.0	1001.4
32.5°	923.1	930.6	948.3	968.8	974.7
35°	886.4	896.6	917.2	940.8	948.3
37.5°	850.9	861.2	886.4	912.8	921.8
40°	814.0	825.8	852.5	883.3	895.1
42.5°	774.2	790.4	819.9	853.8	867.1
45°	734.4	749.2	786.0	824.3	839.1
47.5°	691.7	709.4	749.2	794.9	812.6
50°	646.0	668.1	713.8	763.9	783.1
52.5°	600.3	625.3	676.9	732.9	753.6
55°	555.9	579.6	641.5	702.0	724.1
57.5°	507.4	536.9	604.7	669.5	691.7
60°	457.1	489.6	567.7	635.6	659.2
62.5°	407.0	443.9	532.3	600.3	625.3
65°	356.9	398.2	491.2	563.4	588.5
67.5°	308.2	353.9	452.7	525.1	550.0
70°	252.2	309.7	411.4	482.2	507.4
72.5°	200.6	267.0	371.6	438.0	460.1
75°	154.8	225.7	327.4	387.8	396.7
77.5°	113.5	184.4	281.7	302.3	303.8
80°	76.7	147.4	215.4	212.4	215.4
82.5°	50.1	110.6	135.6	152.0	153.3
85°	29.5	64.9	79.6	88.5	89.9
87.5°	14.7	22.1	28.0	29.5	32.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)