

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: P474467

Luminaire Tested: **24CZ2-60-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474467  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60-HRP-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS W/ HRP INSERT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

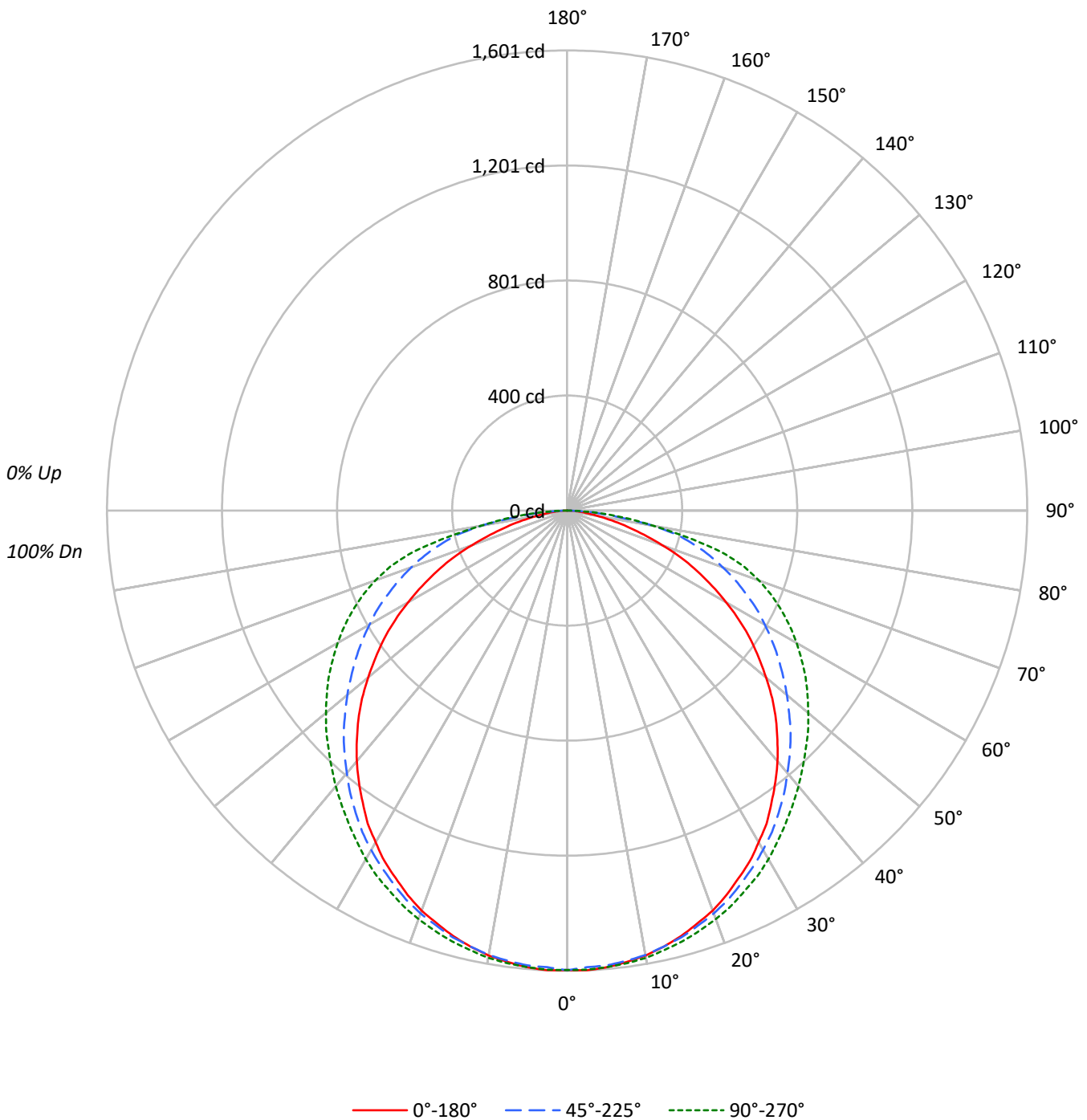
Lumens per Lamp: N/A  
Luminaire Lumens: 4927.5 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.3  
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	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°	2151	2151	2151
5°	2154	2145	2154
10°	2147	2145	2159
15°	2135	2141	2161
20°	2121	2135	2165
25°	2095	2125	2168
30°	2070	2118	2176
35°	2036	2107	2179
40°	2000	2094	2199
45°	1955	2092	2234
50°	1891	2090	2293
55°	1824	2105	2376
60°	1721	2137	2481
65°	1589	2187	2621
70°	1388	2264	2792
75°	1126	2381	2885
80°	831	2335	2335
85°	638	1720	1942



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.4	3.1
10°-20°	434.9	8.8
20°-30°	662.1	13.4
30°-40°	803.9	16.3
40°-50°	849.4	17.2
50°-60°	801.5	16.3
60°-70°	666.4	13.5
70°-80°	438.4	8.9
80°-90°	119.5	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°	1248.4	25.3
0°-40°	2052.4	41.7
0°-60°	3703.2	75.2
0°-90°	4927.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4927.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1599	1599	1599	1599	1599	
5°	1595	1595	1588	1595	1595	151
15°	1533	1535	1537	1551	1551	432
25°	1411	1419	1432	1456	1460	651
35°	1240	1254	1283	1316	1326	776
45°	1027	1048	1100	1153	1174	791
55°	778	811	897	982	1013	693
65°	499	557	687	788	823	493
75°	217	316	458	542	555	233
85°	41	91	111	124	126	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1598.7	1598.7	1598.7	1598.7	1598.7
2.5°	1600.8	1598.7	1590.4	1598.7	1598.7
5°	1594.7	1594.7	1588.3	1594.7	1594.7
7.5°	1584.3	1584.3	1580.1	1588.3	1588.3
10°	1571.8	1571.8	1569.9	1580.1	1580.1
12.5°	1553.4	1555.3	1553.4	1565.7	1565.7
15°	1532.6	1534.8	1536.9	1551.3	1551.3
17.5°	1506.0	1510.0	1514.2	1530.5	1532.6
20°	1481.2	1483.1	1491.4	1510.0	1512.1
22.5°	1448.2	1454.3	1464.7	1483.1	1489.5
25°	1410.9	1419.2	1431.7	1456.4	1460.5
27.5°	1376.0	1382.1	1398.6	1425.5	1433.8
30°	1332.6	1342.9	1363.5	1390.4	1400.7
32.5°	1291.3	1301.7	1326.4	1355.2	1363.5
35°	1239.8	1254.2	1283.0	1316.1	1326.4
37.5°	1190.3	1204.7	1239.8	1276.9	1289.4
40°	1138.6	1155.2	1192.4	1235.6	1252.1
42.5°	1083.0	1105.6	1146.9	1194.3	1213.0
45°	1027.3	1048.0	1099.5	1153.0	1173.8
47.5°	967.6	992.3	1048.0	1112.0	1136.7
50°	903.6	934.5	998.5	1068.6	1095.4
52.5°	839.7	874.6	946.8	1025.2	1054.2
55°	777.7	810.7	897.3	982.0	1012.9
57.5°	709.7	751.0	845.8	936.4	967.6
60°	639.4	684.9	794.2	889.0	922.0
62.5°	569.3	621.0	744.6	839.7	874.6
65°	499.2	557.0	687.0	788.0	823.2
67.5°	431.1	495.0	633.3	734.5	769.4
70°	352.7	433.2	575.5	674.5	709.7
72.5°	280.5	373.5	519.8	612.7	643.6
75°	216.6	315.7	458.0	542.4	554.9
77.5°	158.8	257.9	394.0	422.8	424.9
80°	107.3	206.2	301.3	297.0	301.3
82.5°	70.1	154.8	189.7	212.6	214.5
85°	41.3	90.8	111.4	123.9	125.8
87.5°	20.5	30.9	39.2	41.3	45.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)