

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: P474475

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

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474475  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-60HE-HRP-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SMOOTH LENS W/ HRP INSERT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

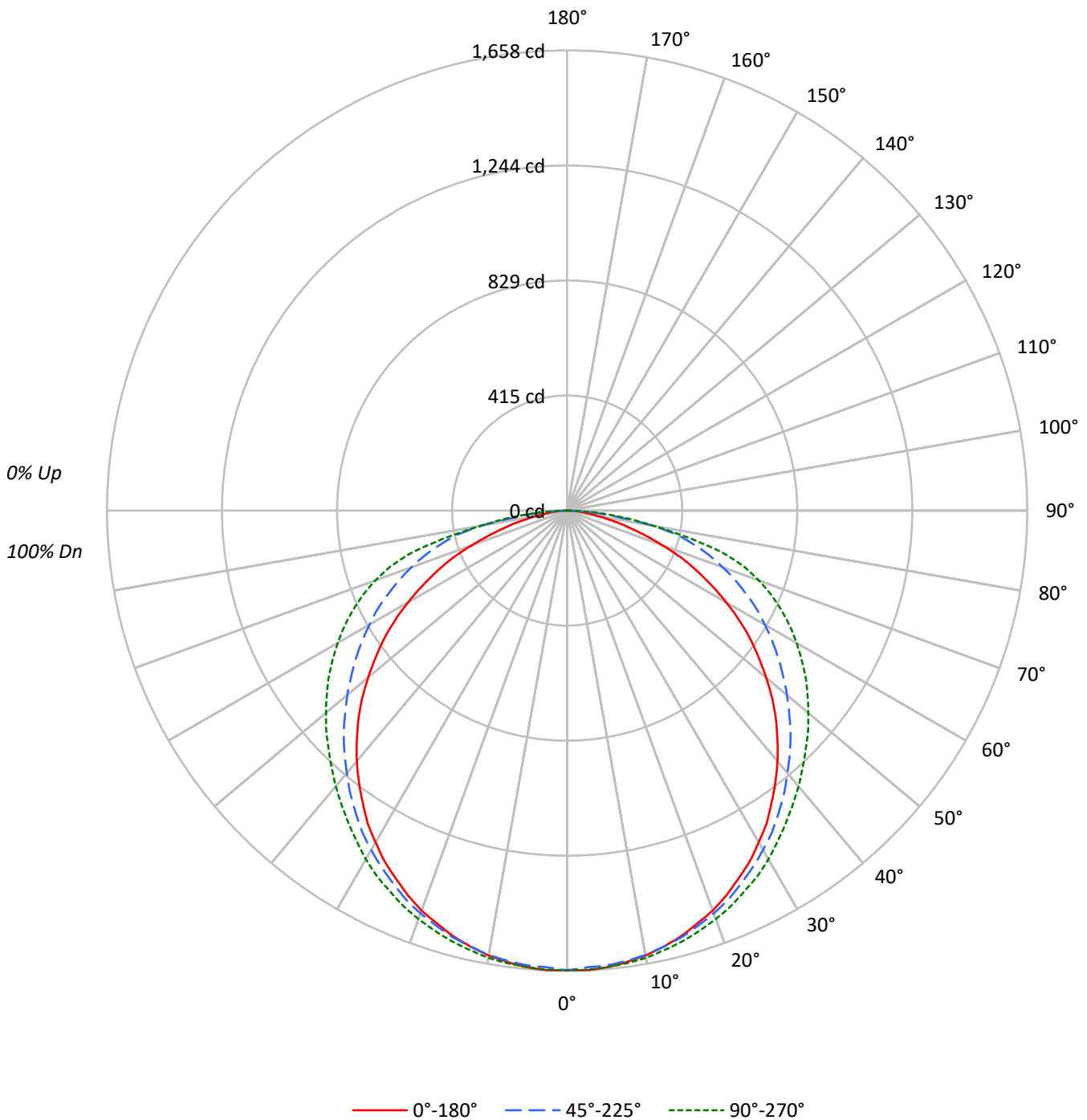
Lumens per Lamp: N/A  
Luminaire Lumens: 5103.3 lumens  
Efficiency: N/A  
Efficacy: 115.7 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 44.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
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°	2228	2228	2228
5°	2231	2222	2231
10°	2224	2221	2236
15°	2211	2217	2238
20°	2197	2212	2242
25°	2169	2201	2246
30°	2144	2194	2254
35°	2109	2183	2257
40°	2071	2169	2278
45°	2024	2167	2313
50°	1959	2165	2375
55°	1889	2180	2461
60°	1782	2213	2570
65°	1646	2266	2714
70°	1437	2345	2891
75°	1166	2466	2988
80°	862	2417	2417
85°	661	1780	2012



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	156.8	3.1
10°-20°	450.4	8.8
20°-30°	685.7	13.4
30°-40°	832.6	16.3
40°-50°	879.7	17.2
50°-60°	830.1	16.3
60°-70°	690.2	13.5
70°-80°	454.0	8.9
80°-90°	123.8	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°	1293.0	25.3
0°-40°	2125.6	41.7
0°-60°	3835.3	75.2
0°-90°	5103.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5103.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1656	1656	1656	1656	1656	
5°	1652	1652	1645	1652	1652	157
15°	1587	1590	1592	1607	1607	448
25°	1461	1470	1483	1508	1513	674
35°	1284	1299	1329	1363	1374	804
45°	1064	1085	1139	1194	1216	819
55°	805	840	929	1017	1049	717
65°	517	577	712	816	852	511
75°	224	327	474	562	575	242
85°	43	94	115	128	130	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1655.8	1655.8	1655.8	1655.8	1655.8
2.5°	1657.9	1655.8	1647.2	1655.8	1655.8
5°	1651.6	1651.6	1645.0	1651.6	1651.6
7.5°	1640.8	1640.8	1636.5	1645.0	1645.0
10°	1627.9	1627.9	1625.9	1636.5	1636.5
12.5°	1608.8	1610.8	1608.8	1621.5	1621.5
15°	1587.3	1589.5	1591.7	1606.6	1606.6
17.5°	1559.7	1563.9	1568.3	1585.1	1587.3
20°	1534.1	1536.0	1544.6	1563.9	1566.1
22.5°	1499.9	1506.2	1517.0	1536.0	1542.6
25°	1461.3	1469.8	1482.7	1508.4	1512.6
27.5°	1425.1	1431.4	1448.5	1476.4	1484.9
30°	1380.1	1390.9	1412.1	1440.0	1450.7
32.5°	1337.4	1348.1	1373.8	1403.6	1412.1
35°	1284.1	1299.0	1328.8	1363.0	1373.8
37.5°	1232.8	1247.7	1284.1	1322.5	1335.4
40°	1179.3	1196.4	1235.0	1279.7	1296.8
42.5°	1121.6	1145.1	1187.8	1236.9	1256.2
45°	1063.9	1085.4	1138.7	1194.2	1215.7
47.5°	1002.1	1027.7	1085.4	1151.6	1177.3
50°	935.9	967.9	1034.1	1106.7	1134.5
52.5°	869.7	905.8	980.6	1061.7	1091.8
55°	805.4	839.6	929.3	1017.0	1049.0
57.5°	735.0	777.8	876.0	969.9	1002.1
60°	662.2	709.4	822.5	920.7	954.9
62.5°	589.6	643.1	771.2	869.7	905.8
65°	517.1	576.9	711.6	816.1	852.5
67.5°	446.4	512.7	655.9	760.7	796.9
70°	365.3	448.6	596.0	698.6	735.0
72.5°	290.5	386.8	538.3	634.6	666.6
75°	224.3	326.9	474.3	561.8	574.7
77.5°	164.5	267.1	408.1	437.9	440.1
80°	111.2	213.6	312.0	307.6	312.0
82.5°	72.6	160.3	196.5	220.2	222.1
85°	42.8	94.1	115.3	128.3	130.3
87.5°	21.3	32.0	40.6	42.8	46.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)