

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: P474468

Luminaire Tested: **24CZ2-65-HRP-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474468  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-65-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**

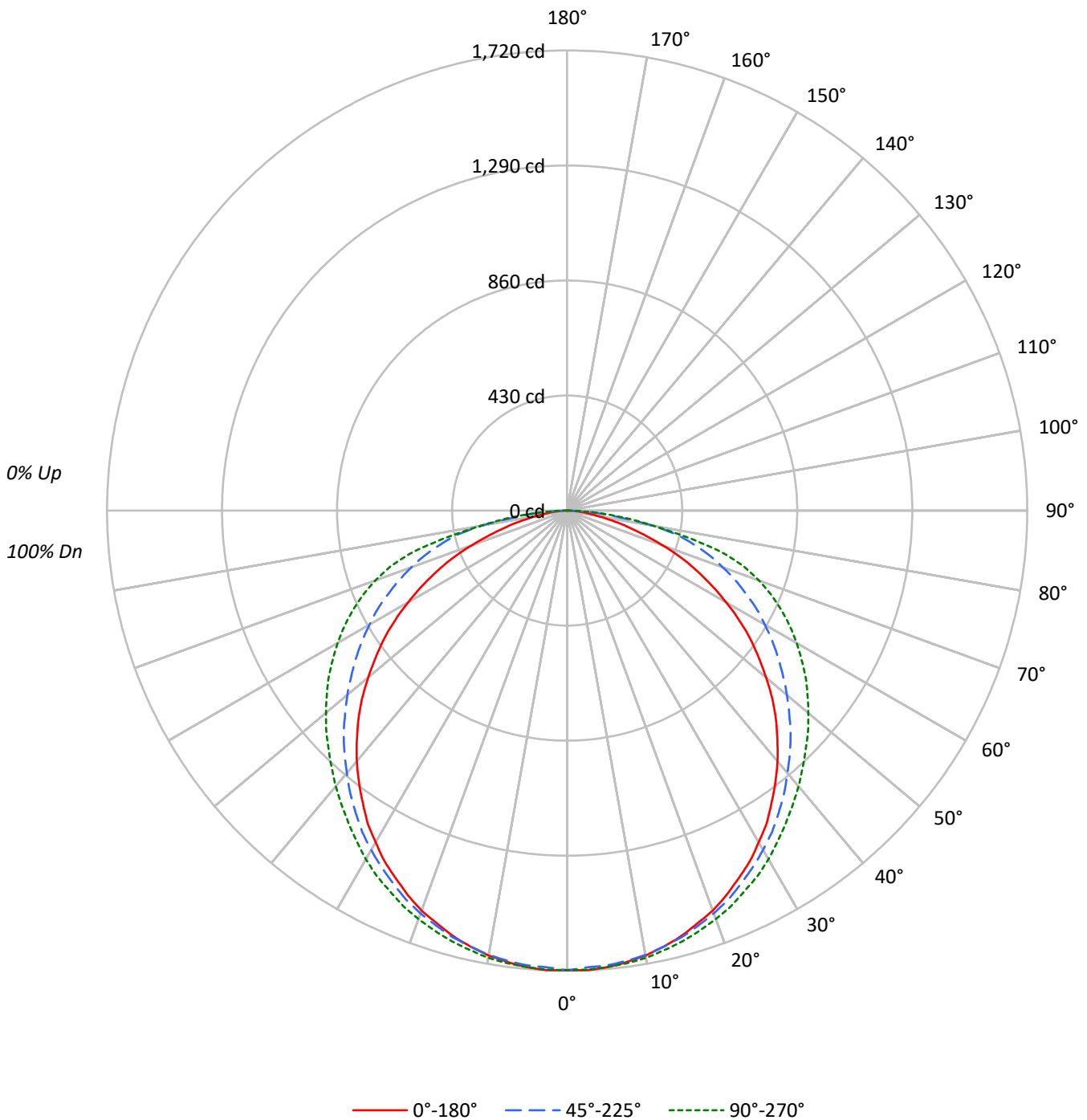
Lumens per Lamp: N/A  
Luminaire Lumens: 5294.0 lumens  
Efficiency: N/A  
Efficacy: 103.8 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 51  
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	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					100			
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82					82			
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67					67			
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56					56			
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48					48			
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36					36			
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31					31			
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28					28			
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25					25			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23					23			

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

	0°	45°	90°
0°	2311	2311	2311
5°	2314	2305	2314
10°	2307	2304	2319
15°	2294	2300	2322
20°	2279	2294	2326
25°	2250	2284	2329
30°	2224	2276	2338
35°	2188	2264	2341
40°	2149	2250	2363
45°	2100	2248	2400
50°	2032	2245	2463
55°	1960	2261	2553
60°	1849	2296	2666
65°	1708	2350	2816
70°	1491	2432	3000
75°	1210	2558	3099
80°	893	2508	2508
85°	685	1846	2086



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.7	3.1
10°-20°	467.3	8.8
20°-30°	711.3	13.4
30°-40°	863.7	16.3
40°-50°	912.5	17.2
50°-60°	861.1	16.3
60°-70°	715.9	13.5
70°-80°	471.0	8.9
80°-90°	128.4	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°	1341.3	25.3
0°-40°	2205.0	41.7
0°-60°	3978.6	75.2
0°-90°	5294.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5294.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1718	1718	1718	1718	1718	
5°	1713	1713	1706	1713	1713	163
15°	1647	1649	1651	1667	1667	464
25°	1516	1525	1538	1565	1569	699
35°	1332	1348	1378	1414	1425	834
45°	1104	1126	1181	1239	1261	850
55°	836	871	964	1055	1088	744
65°	536	598	738	847	884	530
75°	233	339	492	583	596	251
85°	44	98	120	133	135	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1717.6	1717.6	1717.6	1717.6	1717.6
2.5°	1719.9	1717.6	1708.8	1717.6	1717.6
5°	1713.3	1713.3	1706.5	1713.3	1713.3
7.5°	1702.2	1702.2	1697.6	1706.5	1706.5
10°	1688.7	1688.7	1686.7	1697.6	1697.6
12.5°	1668.9	1671.0	1668.9	1682.1	1682.1
15°	1646.7	1648.9	1651.2	1666.7	1666.7
17.5°	1618.0	1622.3	1626.9	1644.4	1646.7
20°	1591.4	1593.4	1602.3	1622.3	1624.6
22.5°	1555.9	1562.5	1573.6	1593.4	1600.3
25°	1515.9	1524.7	1538.2	1564.8	1569.1
27.5°	1478.3	1484.9	1502.7	1531.6	1540.4
30°	1431.7	1442.8	1464.9	1493.8	1504.9
32.5°	1387.3	1398.5	1425.1	1456.0	1464.9
35°	1332.1	1347.5	1378.5	1414.0	1425.1
37.5°	1278.8	1294.3	1332.1	1371.9	1385.3
40°	1223.3	1241.1	1281.1	1327.5	1345.3
42.5°	1163.5	1187.8	1232.2	1283.2	1303.2
45°	1103.7	1126.0	1181.3	1238.8	1261.1
47.5°	1039.5	1066.2	1126.0	1194.7	1221.3
50°	970.8	1004.1	1072.7	1148.0	1176.9
52.5°	902.1	939.7	1017.2	1101.4	1132.6
55°	835.5	871.0	964.0	1055.0	1088.2
57.5°	762.5	806.8	908.7	1006.1	1039.5
60°	687.0	735.9	853.2	955.1	990.6
62.5°	611.7	667.2	800.0	902.1	939.7
65°	536.4	598.5	738.1	846.6	884.4
67.5°	463.1	531.8	680.4	789.1	826.6
70°	379.0	465.4	618.3	724.7	762.5
72.5°	301.4	401.3	558.4	658.3	691.5
75°	232.7	339.2	492.0	582.8	596.2
77.5°	170.6	277.1	423.3	454.3	456.5
80°	115.3	221.6	323.7	319.1	323.7
82.5°	75.3	166.3	203.8	228.4	230.4
85°	44.4	97.6	119.6	133.1	135.1
87.5°	22.1	33.2	42.1	44.4	48.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)