

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: P295070

Luminaire Tested: **24CZ2-65HE-HRP-UNV-L950-CD1-U**

Issue Date: 12/2/2019

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P295070  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-65HE-HRP-UNV-L950-CD1-U  
Description: 2'x4' TROFFER LED MODULE, HIGH EFFICIENCY ROUND PERF. LENS  
Light Source: (392) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: Sample No.   Condition   Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4641.9 lumens  
Efficiency: N/A  
Efficacy: 94.9 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

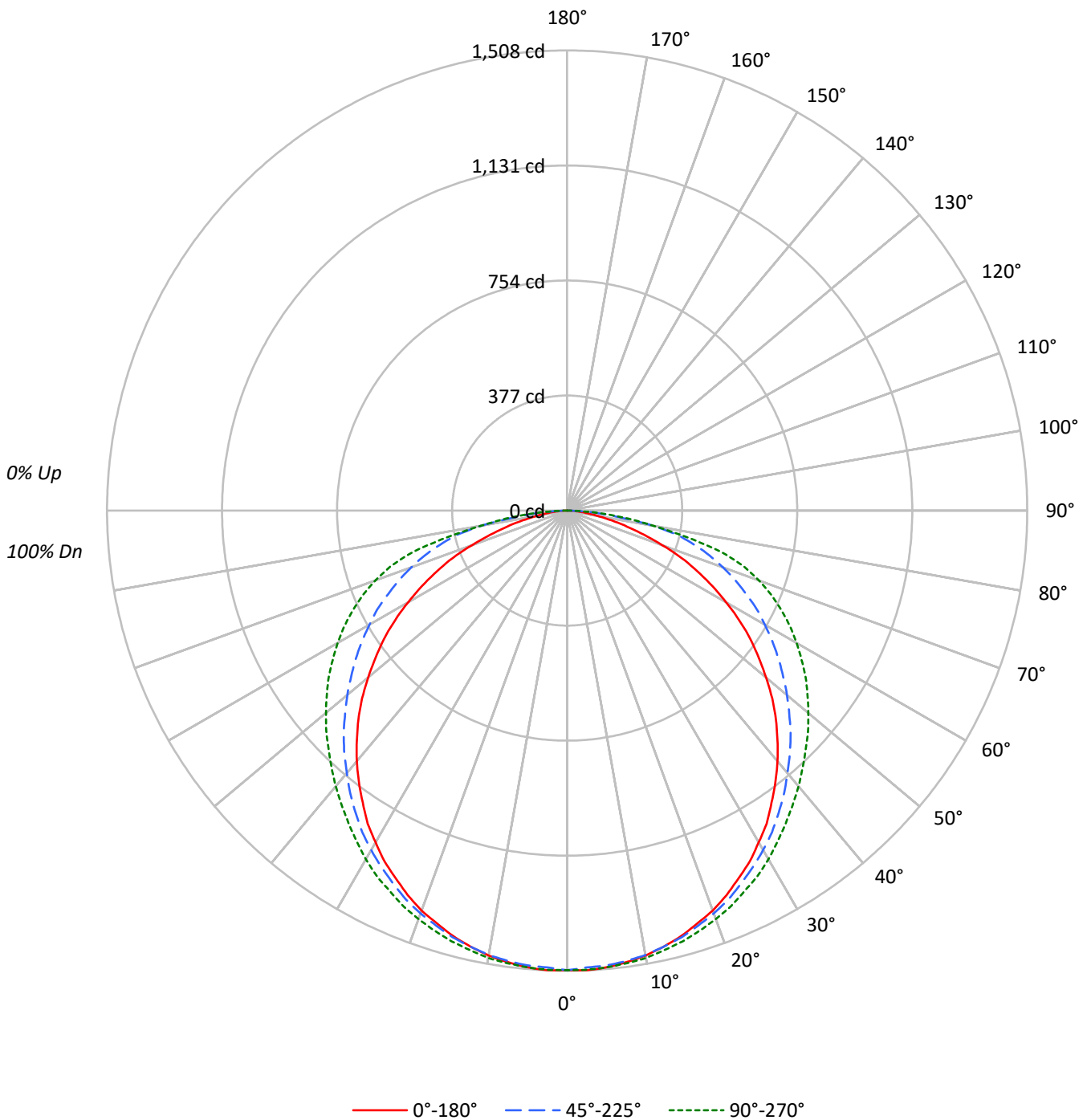
Input Watts (W): 48.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2026	2026	2026
5°	2029	2021	2029
10°	2023	2021	2034
15°	2011	2017	2036
20°	1998	2012	2040
25°	1973	2002	2043
30°	1950	1996	2050
35°	1918	1985	2052
40°	1884	1973	2072
45°	1842	1971	2104
50°	1782	1969	2160
55°	1719	1983	2238
60°	1621	2013	2338
65°	1497	2060	2469
70°	1307	2133	2630
75°	1061	2243	2718
80°	783	2198	2198
85°	601	1619	1829



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.7	3.1
10°-20°	409.7	8.8
20°-30°	623.7	13.4
30°-40°	757.3	16.3
40°-50°	800.1	17.2
50°-60°	755.0	16.3
60°-70°	627.8	13.5
70°-80°	413.0	8.9
80°-90°	112.6	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°	1176.1	25.3
0°-40°	1933.4	41.7
0°-60°	3488.6	75.2
0°-90°	4641.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4641.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1506	1506	1506	1506	1506	
5°	1502	1502	1496	1502	1502	143
15°	1444	1446	1448	1461	1461	407
25°	1329	1337	1349	1372	1376	613
35°	1168	1182	1209	1240	1250	731
45°	968	987	1036	1086	1106	745
55°	733	764	845	925	954	653
65°	470	525	647	742	775	465
75°	204	297	431	511	523	220
85°	39	86	105	117	118	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1506.1	1506.1	1506.1	1506.1	1506.1
2.5°	1508.0	1506.1	1498.3	1506.1	1506.1
5°	1502.2	1502.2	1496.3	1502.2	1502.2
7.5°	1492.5	1492.5	1488.6	1496.3	1496.3
10°	1480.8	1480.8	1478.9	1488.6	1488.6
12.5°	1463.3	1465.3	1463.3	1475.0	1475.0
15°	1443.9	1445.8	1447.8	1461.4	1461.4
17.5°	1418.6	1422.5	1426.4	1441.9	1443.9
20°	1395.3	1397.2	1405.0	1422.5	1424.4
22.5°	1364.2	1370.0	1379.8	1397.2	1403.1
25°	1329.2	1337.0	1348.7	1372.0	1375.9
27.5°	1296.2	1302.0	1317.6	1342.8	1350.6
30°	1255.4	1265.1	1284.5	1309.8	1319.5
32.5°	1216.5	1226.2	1249.5	1276.8	1284.5
35°	1167.9	1181.5	1208.7	1239.8	1249.5
37.5°	1121.3	1134.9	1167.9	1202.9	1214.6
40°	1072.7	1088.3	1123.2	1164.0	1179.6
42.5°	1020.2	1041.6	1080.5	1125.2	1142.7
45°	967.8	987.2	1035.8	1086.3	1105.7
47.5°	911.4	934.7	987.2	1047.4	1070.8
50°	851.2	880.3	940.6	1006.6	1031.9
52.5°	790.9	824.0	892.0	965.8	993.0
55°	732.6	763.7	845.3	925.0	954.2
57.5°	668.5	707.4	796.8	882.3	911.4
60°	602.4	645.2	748.2	837.6	868.7
62.5°	536.4	584.9	701.5	790.9	824.0
65°	470.3	524.7	647.1	742.3	775.4
67.5°	406.2	466.4	596.6	691.8	724.9
70°	332.3	408.1	542.2	635.5	668.5
72.5°	264.3	351.7	489.7	577.2	606.3
75°	204.0	297.3	431.4	511.1	522.8
77.5°	149.6	242.9	371.2	398.4	400.3
80°	101.1	194.3	283.7	279.8	283.7
82.5°	66.1	145.7	178.8	200.2	202.1
85°	38.9	85.5	104.9	116.6	118.5
87.5°	19.4	29.1	36.9	38.9	42.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)