

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: P474376

Luminaire Tested: **24CZ2-65HE-HRP-UNV-L830-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474376  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-65HE-HRP-UNV-L830-CD1-U  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SMOOTH LENS W/ HRP INSERT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5298.0 lumens  
Efficiency: N/A  
Efficacy: 108.3 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

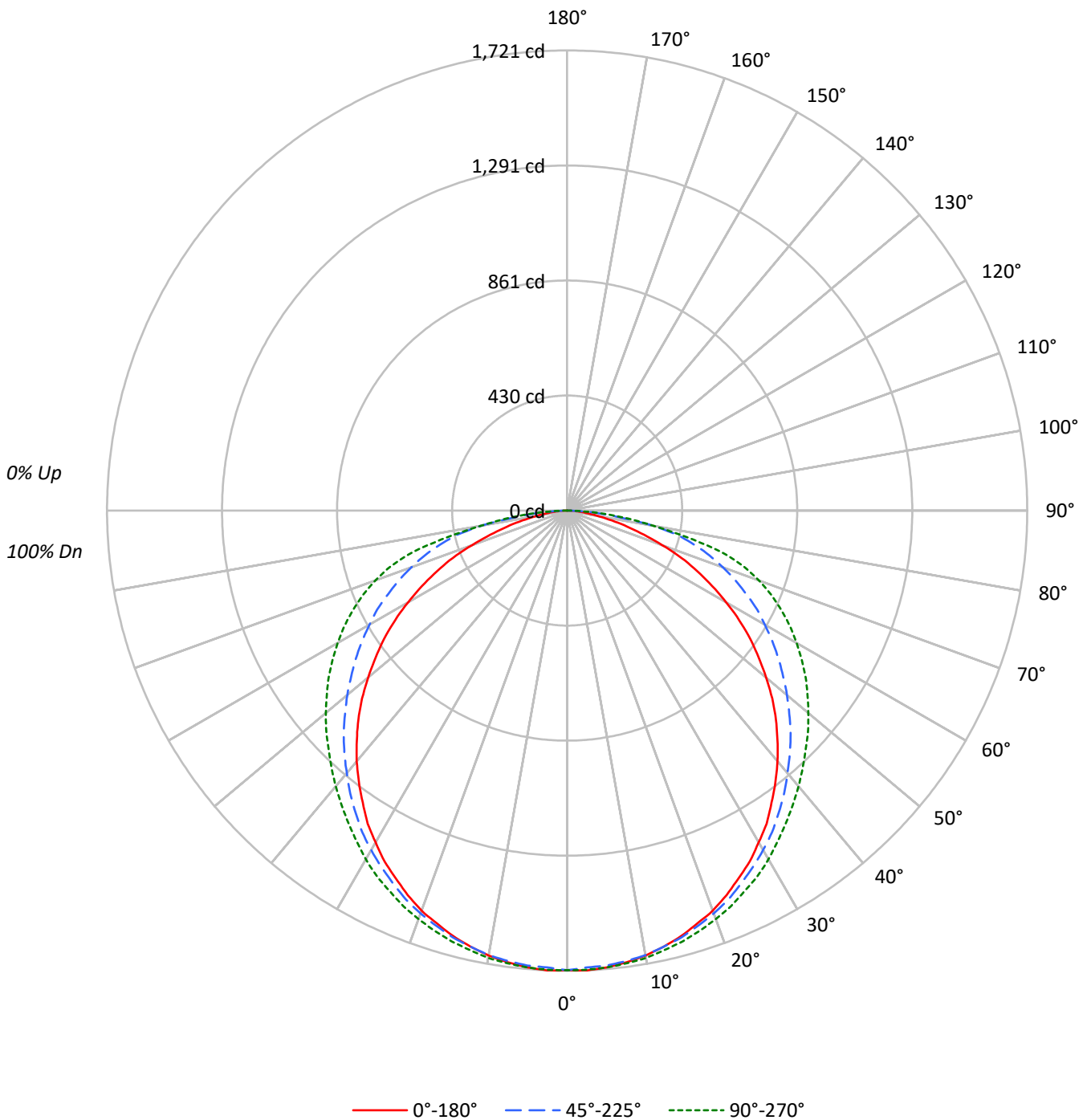
Input Watts (W): 48.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2313	2313	2313
5°	2316	2307	2316
10°	2309	2306	2321
15°	2295	2302	2323
20°	2280	2296	2328
25°	2252	2285	2331
30°	2226	2278	2340
35°	2190	2266	2343
40°	2150	2252	2365
45°	2102	2249	2402
50°	2034	2247	2465
55°	1961	2263	2555
60°	1850	2298	2668
65°	1709	2352	2818
70°	1492	2434	3002
75°	1211	2560	3102
80°	894	2510	2510
85°	685	1848	2087



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.8	3.1
10°-20°	467.6	8.8
20°-30°	711.9	13.4
30°-40°	864.4	16.3
40°-50°	913.2	17.2
50°-60°	861.7	16.3
60°-70°	716.5	13.5
70°-80°	471.4	8.9
80°-90°	128.5	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°	1342.3	25.3
0°-40°	2206.7	41.7
0°-60°	3981.6	75.2
0°-90°	5298.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5298.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1719	1719	1719	1719	1719	
5°	1715	1715	1708	1715	1715	163
15°	1648	1650	1652	1668	1668	465
25°	1517	1526	1539	1566	1570	700
35°	1333	1349	1380	1415	1426	834
45°	1104	1127	1182	1240	1262	851
55°	836	872	965	1056	1089	745
65°	537	599	739	847	885	531
75°	233	339	492	583	597	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°	1718.9	1718.9	1718.9	1718.9	1718.9
2.5°	1721.2	1718.9	1710.1	1718.9	1718.9
5°	1714.6	1714.6	1707.8	1714.6	1714.6
7.5°	1703.4	1703.4	1698.9	1707.8	1707.8
10°	1690.0	1690.0	1688.0	1698.9	1698.9
12.5°	1670.2	1672.3	1670.2	1683.4	1683.4
15°	1647.9	1650.2	1652.5	1667.9	1667.9
17.5°	1619.2	1623.5	1628.1	1645.6	1647.9
20°	1592.6	1594.6	1603.5	1623.5	1625.8
22.5°	1557.1	1563.7	1574.8	1594.6	1601.5
25°	1517.0	1525.9	1539.3	1566.0	1570.3
27.5°	1479.4	1486.1	1503.8	1532.7	1541.6
30°	1432.8	1443.9	1466.0	1494.9	1506.1
32.5°	1388.4	1399.5	1426.2	1457.1	1466.0
35°	1333.1	1348.6	1379.5	1415.0	1426.2
37.5°	1279.8	1295.3	1333.1	1372.9	1386.3
40°	1224.3	1242.0	1282.1	1328.5	1346.3
42.5°	1164.4	1188.7	1233.1	1284.1	1304.2
45°	1104.5	1126.8	1182.1	1239.7	1262.1
47.5°	1040.3	1067.0	1126.8	1195.6	1222.2
50°	971.6	1004.8	1073.6	1148.9	1177.8
52.5°	902.8	940.4	1018.0	1102.2	1133.4
55°	836.1	871.6	964.7	1055.8	1089.0
57.5°	763.1	807.4	909.4	1006.9	1040.3
60°	687.5	736.4	853.9	955.9	991.4
62.5°	612.1	667.7	800.6	902.8	940.4
65°	536.8	598.9	738.7	847.3	885.1
67.5°	463.5	532.2	680.9	789.7	827.3
70°	379.3	465.8	618.7	725.3	763.1
72.5°	301.6	401.6	558.9	658.8	692.0
75°	232.9	339.4	492.4	583.2	596.7
77.5°	170.7	277.3	423.6	454.6	456.9
80°	115.4	221.7	323.9	319.4	323.9
82.5°	75.3	166.4	204.0	228.6	230.6
85°	44.4	97.7	119.7	133.2	135.2
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)