

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: P475191

Luminaire Tested: **22CZ2-90VHE-HRP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

Test Information

Test Method: LM-79-08
Report Number: P475191
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/10/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 22CZ2-90VHE-HRP-UNV-L840-CD1-U
Description: 2'X2' TROFFER LED MODULE, VERY 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: 7420.6 lumens
Efficiency: N/A
Efficacy: 111.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

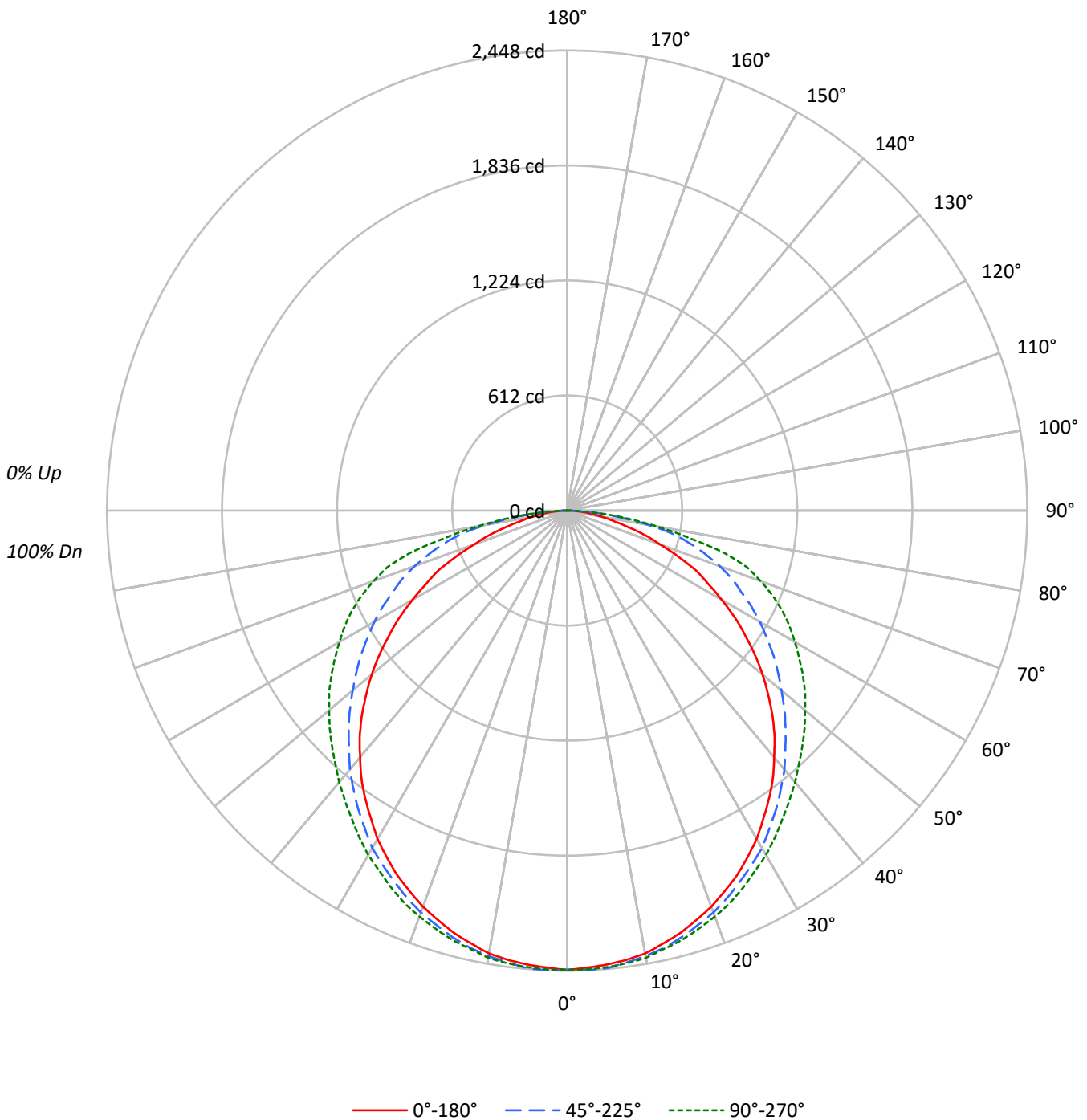
Input Watts (W): 66.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	87	84	82
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6575	6575	6575
5°	6550	6600	6588
10°	6536	6575	6601
15°	6481	6547	6586
20°	6422	6515	6581
25°	6352	6463	6575
30°	6269	6444	6575
35°	6151	6367	6566
40°	6018	6314	6627
45°	5879	6254	6733
50°	5683	6232	6917
55°	5424	6282	7182
60°	5114	6373	7533
65°	4829	6498	8049
70°	4125	6777	8618
75°	3457	7060	8955
80°	2833	6819	7471
85°	2452	5054	5490



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.6	3.1
10°-20°	662.5	8.9
20°-30°	1004.0	13.5
30°-40°	1212.3	16.3
40°-50°	1273.8	17.2
50°-60°	1198.5	16.2
60°-70°	999.3	13.5
70°-80°	662.2	8.9
80°-90°	176.4	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°	1898.0	25.6
0°-40°	3110.3	41.9
0°-60°	5582.6	75.2
0°-90°	7420.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7420.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2443	2443	2443	2443	2443	
5°	2425	2429	2443	2443	2439	230
15°	2326	2336	2350	2359	2364	656
25°	2139	2154	2177	2205	2214	985
35°	1872	1891	1938	1980	1999	1171
45°	1545	1568	1643	1727	1769	1190
55°	1156	1208	1339	1474	1531	1034
65°	758	824	1020	1189	1264	738
75°	332	464	679	819	861	361
85°	79	122	164	178	178	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2443.3	2443.3	2443.3	2443.3	2443.3
2.5°	2434.3	2438.8	2448.3	2448.3	2443.3
5°	2424.7	2429.3	2443.3	2443.3	2438.8
7.5°	2410.7	2415.7	2424.7	2434.3	2429.3
10°	2392.1	2396.6	2406.1	2415.7	2415.7
12.5°	2359.4	2364.0	2382.6	2387.5	2387.5
15°	2326.3	2335.8	2349.9	2359.4	2364.0
17.5°	2284.6	2293.7	2312.3	2331.3	2331.3
20°	2242.4	2251.5	2275.1	2293.7	2298.2
22.5°	2190.7	2204.8	2228.3	2251.5	2261.0
25°	2139.4	2153.5	2176.6	2204.8	2214.3
27.5°	2078.2	2092.3	2125.4	2158.0	2162.6
30°	2017.4	2031.5	2073.7	2101.8	2115.9
32.5°	1942.6	1961.2	2003.4	2045.6	2059.6
35°	1872.3	1891.3	1938.1	1980.2	1998.8
37.5°	1797.5	1816.1	1867.8	1919.5	1942.6
40°	1713.1	1736.7	1797.5	1853.7	1886.4
42.5°	1633.7	1657.3	1718.1	1792.9	1825.6
45°	1544.8	1568.0	1643.3	1727.2	1769.3
47.5°	1450.9	1479.1	1568.0	1671.4	1713.1
50°	1357.5	1390.2	1488.6	1605.6	1652.3
52.5°	1259.1	1301.3	1413.7	1540.3	1596.1
55°	1156.1	1207.8	1338.9	1474.5	1530.8
57.5°	1057.7	1104.9	1259.1	1404.2	1465.0
60°	950.2	1011.0	1184.2	1333.9	1399.7
62.5°	847.3	913.0	1104.9	1264.1	1333.9
65°	758.4	823.7	1020.5	1188.8	1264.1
67.5°	641.3	730.2	950.2	1109.4	1184.2
70°	524.3	645.9	861.3	1025.0	1095.3
72.5°	435.4	552.4	772.4	936.1	1001.9
75°	332.5	463.5	679.0	819.1	861.3
77.5°	248.1	383.7	580.6	650.9	655.4
80°	182.8	294.8	440.0	463.5	482.1
82.5°	126.5	205.9	285.7	313.4	322.9
85°	79.4	121.6	163.7	177.8	177.8
87.5°	42.2	46.7	56.2	56.2	56.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)