

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: P475307

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

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475307  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-90VHE-SQR-UNV-L840-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY HIGH EFFICIENCY,SQUARE LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8703.1 lumens  
Efficiency: N/A  
Efficacy: 130.5 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.31 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

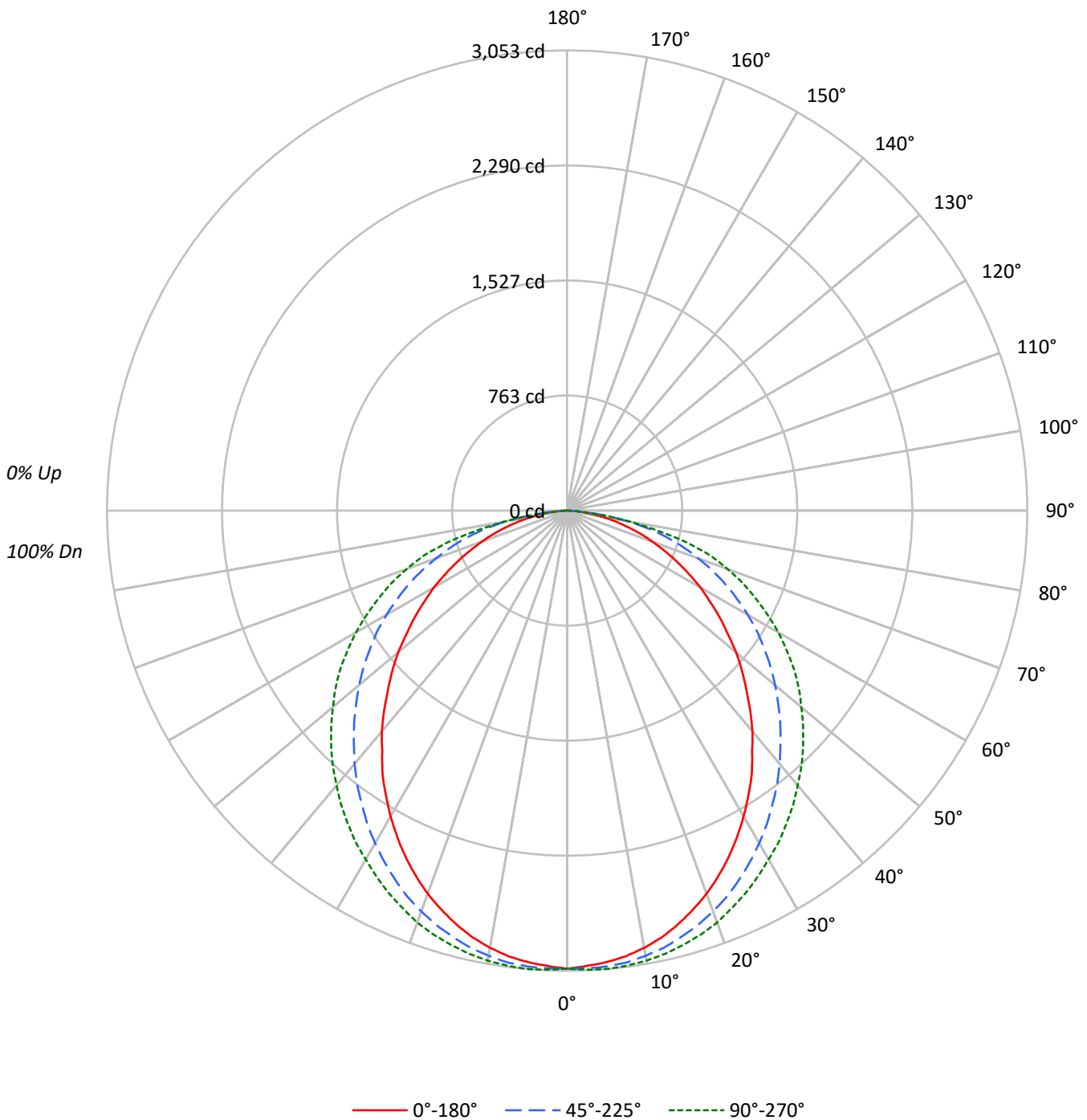
Input Watts (W): 66.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83
2	99	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	8181	8181	8181
5°	8123	8201	8246
10°	8048	8194	8284
15°	7918	8159	8309
20°	7747	8104	8327
25°	7531	8021	8315
30°	7278	7920	8304
35°	7015	7802	8332
40°	6718	7705	8359
45°	6398	7609	8426
50°	6121	7539	8490
55°	5794	7480	8625
60°	5491	7449	8716
65°	5128	7389	8784
70°	4711	7279	8904
75°	4253	7086	8587
80°	3648	6276	6467
85°	2936	3699	2936



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	288.2	3.3
10°-20°	824.1	9.5
20°-30°	1237.7	14.2
30°-40°	1476.1	17.0
40°-50°	1526.2	17.5
50°-60°	1403.1	16.1
60°-70°	1117.0	12.8
70°-80°	682.5	7.8
80°-90°	148.3	1.7
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°	2350.0	27.0
0°-40°	3826.1	44.0
0°-60°	6755.3	77.6
0°-90°	8703.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8703.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3040	3040	3040	3040	3040	
5°	3007	3015	3036	3049	3053	285
15°	2842	2875	2928	2970	2982	800
25°	2536	2598	2701	2776	2800	1167
35°	2136	2226	2375	2499	2536	1332
45°	1681	1801	1999	2161	2214	1300
55°	1235	1371	1594	1776	1838	1105
65°	805	942	1160	1322	1380	798
75°	409	529	682	801	826	436
85°	95	116	120	103	95	109
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3040.0	3040.0	3040.0	3040.0	3040.0
2.5°	3023.6	3027.7	3040.0	3048.7	3048.7
5°	3007.1	3015.3	3035.9	3048.7	3052.8
7.5°	2982.4	2994.8	3023.6	3040.0	3044.6
10°	2945.4	2961.9	2998.9	3023.6	3031.8
12.5°	2899.7	2924.4	2970.1	3003.0	3011.2
15°	2842.1	2875.0	2928.5	2970.1	2982.4
17.5°	2775.8	2817.0	2883.2	2933.1	2949.5
20°	2705.4	2747.0	2829.8	2887.4	2907.9
22.5°	2623.2	2676.7	2771.7	2838.0	2854.5
25°	2536.3	2598.0	2701.3	2775.8	2800.5
27.5°	2441.3	2515.8	2627.3	2718.2	2738.8
30°	2342.1	2420.7	2548.7	2647.9	2672.5
32.5°	2238.8	2329.7	2465.9	2577.5	2610.8
35°	2135.5	2226.4	2375.0	2499.3	2536.3
37.5°	2015.7	2123.1	2288.6	2416.6	2461.8
40°	1912.4	2015.7	2193.5	2333.8	2379.5
42.5°	1796.8	1908.3	2094.3	2247.0	2300.9
45°	1681.1	1800.9	1999.3	2160.6	2214.1
47.5°	1573.7	1693.5	1900.1	2069.7	2123.1
50°	1462.2	1586.1	1800.9	1974.6	2028.1
52.5°	1342.4	1478.6	1701.7	1875.4	1937.6
55°	1235.0	1371.2	1594.3	1776.2	1838.4
57.5°	1123.5	1263.8	1495.6	1668.8	1726.8
60°	1020.2	1156.4	1384.0	1553.2	1619.4
62.5°	908.7	1049.0	1272.0	1437.5	1499.7
65°	805.4	942.0	1160.5	1321.9	1379.5
67.5°	702.1	838.7	1044.9	1198.0	1263.8
70°	598.8	735.4	925.1	1074.1	1131.7
72.5°	508.3	628.0	809.5	946.2	999.6
75°	409.1	528.8	681.5	801.3	825.9
77.5°	318.1	425.5	553.5	607.0	615.7
80°	235.4	318.1	405.0	417.3	417.3
82.5°	156.8	218.9	251.9	256.0	251.9
85°	95.1	115.6	119.8	103.3	95.1
87.5°	32.9	32.9	20.6	12.3	4.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)