

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: P474690

Luminaire Tested: **24CZ2-80VHE-SQR-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474690  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-80VHE-SQR-UNV-L840-CD1-U  
Description: 2'X4' 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: 7763.3 lumens  
Efficiency: N/A  
Efficacy: 138.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.3 / 1.39  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

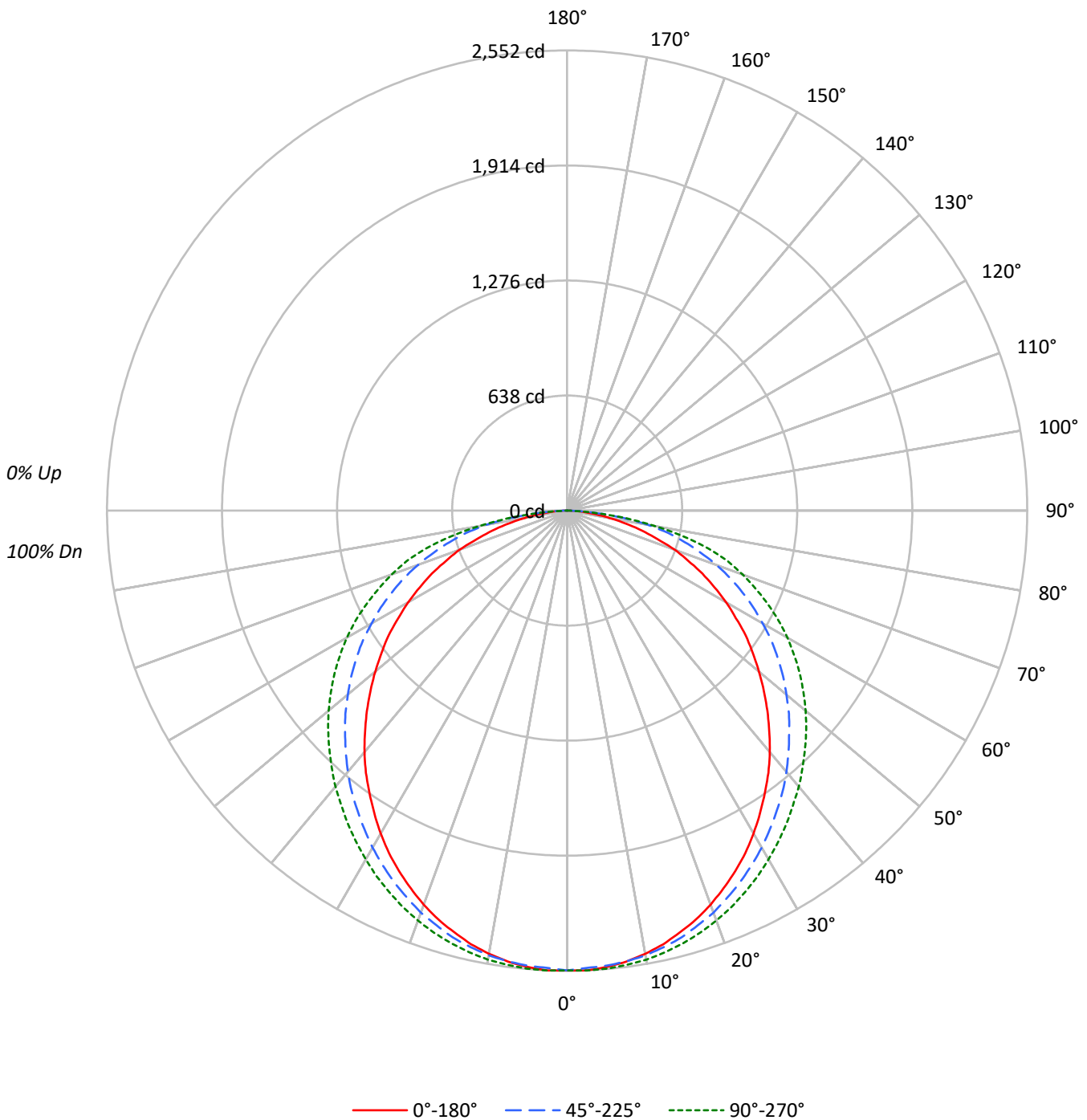
Input Watts (W): 56.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	81	75	84	78	73	80	76	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	53	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°	6862	6862	6862
5°	6861	6841	6888
10°	6819	6842	6910
15°	6745	6828	6921
20°	6659	6794	6929
25°	6551	6747	6931
30°	6424	6706	6941
35°	6278	6666	6967
40°	6143	6644	7023
45°	5976	6627	7099
50°	5815	6646	7227
55°	5679	6692	7390
60°	5487	6742	7596
65°	5268	6823	7826
70°	4996	6918	8139
75°	4475	7015	8408
80°	3767	7034	7631
85°	2794	5323	5017



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	241.7	3.1
10°-20°	692.5	8.9
20°-30°	1048.4	13.5
30°-40°	1268.2	16.3
40°-50°	1338.7	17.2
50°-60°	1262.4	16.3
60°-70°	1040.8	13.4
70°-80°	682.8	8.8
80°-90°	187.7	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°	1982.6	25.5
0°-40°	3250.8	41.9
0°-60°	5852.0	75.4
0°-90°	7763.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7763.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2550	2550	2550	2550	2550	
5°	2540	2540	2533	2550	2550	241
15°	2421	2435	2451	2479	2484	683
25°	2206	2234	2272	2319	2334	1016
35°	1911	1961	2029	2098	2121	1196
45°	1570	1641	1741	1834	1865	1212
55°	1210	1296	1426	1533	1575	1078
65°	827	926	1072	1186	1229	817
75°	430	541	675	781	809	455
85°	90	156	172	167	162	112
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2550.0	2550.0	2550.0	2550.0	2550.0
2.5°	2552.5	2550.0	2538.8	2553.7	2552.5
5°	2540.1	2540.1	2532.6	2550.0	2550.0
7.5°	2522.7	2523.9	2521.5	2541.3	2541.3
10°	2495.4	2500.4	2504.1	2526.4	2528.9
12.5°	2463.2	2471.8	2479.3	2506.6	2509.0
15°	2421.0	2434.6	2450.8	2479.3	2484.2
17.5°	2377.6	2393.7	2411.1	2448.3	2454.5
20°	2325.5	2344.1	2372.6	2409.8	2419.7
22.5°	2267.2	2293.2	2323.0	2367.7	2380.1
25°	2206.4	2233.7	2272.2	2319.3	2334.2
27.5°	2140.7	2172.9	2216.3	2270.9	2287.0
30°	2067.5	2104.7	2158.1	2216.3	2233.7
32.5°	1990.6	2034.0	2093.6	2158.1	2177.9
35°	1911.2	1960.9	2029.1	2098.5	2120.8
37.5°	1833.1	1882.7	1963.3	2036.5	2057.6
40°	1748.8	1803.3	1891.4	1969.5	1999.3
42.5°	1659.5	1724.0	1817.0	1903.8	1932.3
45°	1570.2	1640.9	1741.3	1834.3	1865.4
47.5°	1479.6	1557.8	1668.2	1762.4	1798.4
50°	1389.1	1472.2	1587.5	1689.2	1726.4
52.5°	1297.3	1384.1	1509.4	1617.3	1650.8
55°	1210.5	1296.1	1426.3	1533.0	1575.1
57.5°	1110.0	1206.8	1344.4	1452.3	1493.3
60°	1019.5	1113.8	1252.7	1366.8	1411.4
62.5°	921.5	1018.3	1164.6	1278.7	1322.1
65°	827.3	926.5	1071.6	1185.7	1229.1
67.5°	725.6	829.7	978.6	1088.9	1131.1
70°	635.0	733.0	879.3	992.2	1034.4
72.5°	524.6	636.3	776.4	888.0	933.9
75°	430.4	540.8	674.7	781.4	808.7
77.5°	331.1	441.5	574.2	643.7	662.3
80°	243.1	347.3	453.9	491.1	492.4
82.5°	163.7	255.5	316.3	334.9	332.4
85°	90.5	156.3	172.4	167.4	162.5
87.5°	37.2	52.1	42.2	29.8	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)