

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: P474677

Luminaire Tested: **24CZ2-70HE-SQR-UNV-L840-CD1-U**

Issue Date: 01/28/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P474677  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 01/28/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-70HE-SQR-UNV-L840-CD1-U  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY,SQUARE LENS  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6987.8 lumens  
Efficiency: N/A  
Efficacy: 141.7 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

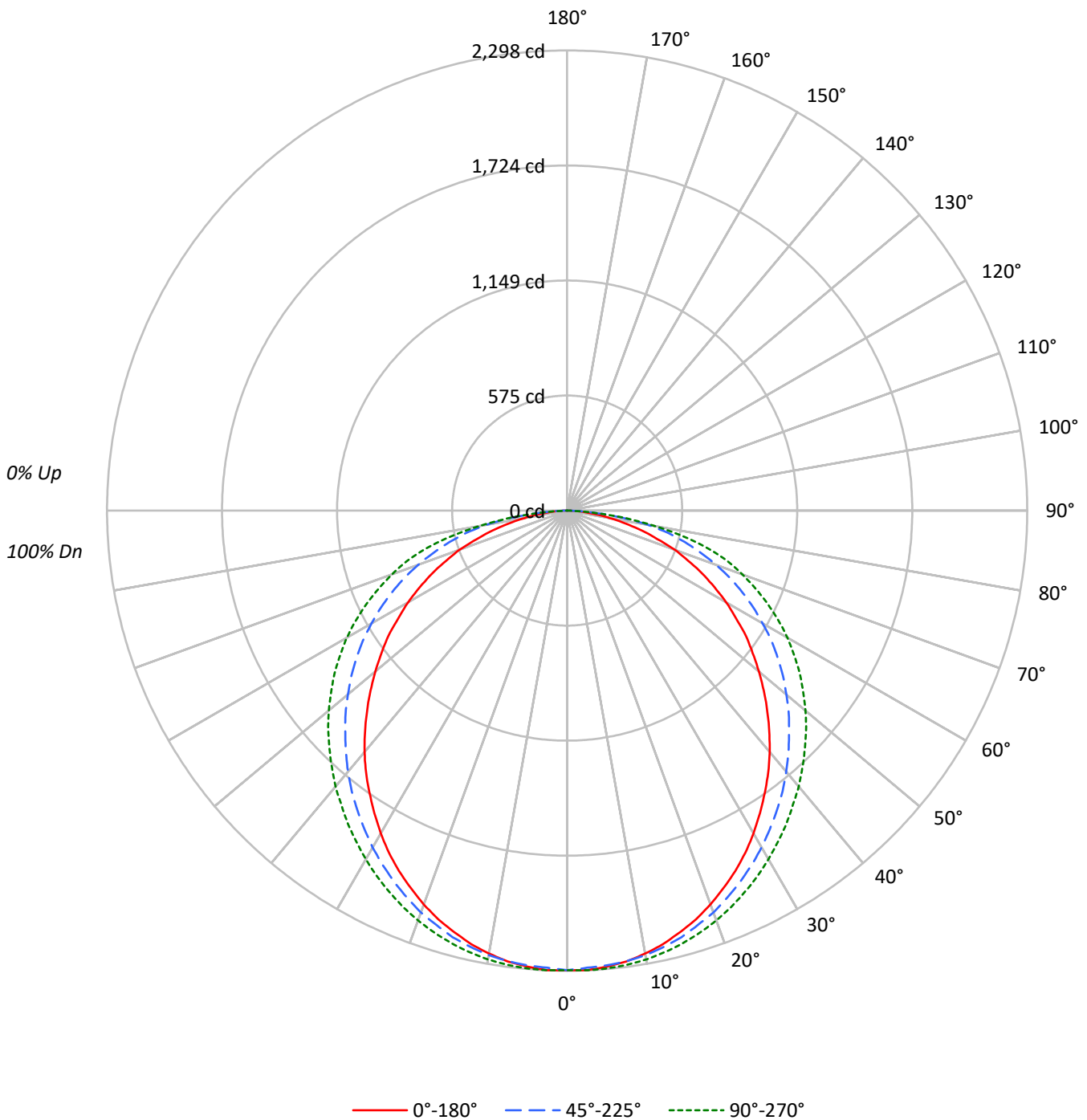
Input Watts (W): 49.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	6177	6177	6177
5°	6176	6158	6200
10°	6137	6159	6220
15°	6071	6146	6230
20°	5994	6116	6237
25°	5897	6073	6238
30°	5783	6036	6247
35°	5651	6000	6271
40°	5530	5981	6322
45°	5378	5965	6390
50°	5234	5982	6506
55°	5112	6023	6652
60°	4939	6068	6837
65°	4741	6141	7044
70°	4497	6227	7326
75°	4028	6314	7568
80°	3391	6332	6868
85°	2516	4792	4514



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.5	3.1
10°-20°	623.4	8.9
20°-30°	943.7	13.5
30°-40°	1141.6	16.3
40°-50°	1205.0	17.2
50°-60°	1136.3	16.3
60°-70°	936.8	13.4
70°-80°	614.6	8.8
80°-90°	169.0	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°	1784.6	25.5
0°-40°	2926.1	41.9
0°-60°	5267.4	75.4
0°-90°	6987.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6987.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2295	2295	2295	2295	2295	
5°	2286	2286	2280	2295	2295	217
15°	2179	2191	2206	2232	2236	615
25°	1986	2011	2045	2088	2101	915
35°	1720	1765	1826	1889	1909	1077
45°	1413	1477	1567	1651	1679	1091
55°	1090	1167	1284	1380	1418	971
65°	745	834	964	1067	1106	735
75°	387	487	607	703	728	409
85°	82	141	155	151	146	101
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2295.3	2295.3	2295.3	2295.3	2295.3
2.5°	2297.5	2295.3	2285.2	2298.6	2297.5
5°	2286.3	2286.3	2279.6	2295.3	2295.3
7.5°	2270.7	2271.8	2269.6	2287.5	2287.5
10°	2246.1	2250.6	2254.0	2274.1	2276.3
12.5°	2217.1	2224.9	2231.6	2256.2	2258.4
15°	2179.2	2191.4	2206.0	2231.6	2236.1
17.5°	2140.1	2154.6	2170.2	2203.7	2209.3
20°	2093.2	2109.9	2135.6	2169.1	2178.0
22.5°	2040.7	2064.2	2091.0	2131.2	2142.3
25°	1986.0	2010.6	2045.2	2087.6	2101.0
27.5°	1926.9	1955.9	1995.0	2044.1	2058.6
30°	1861.0	1894.5	1942.5	1995.0	2010.6
32.5°	1791.8	1830.9	1884.4	1942.5	1960.4
35°	1720.3	1765.0	1826.4	1888.9	1909.0
37.5°	1650.0	1694.7	1767.2	1833.1	1852.1
40°	1574.1	1623.2	1702.5	1772.8	1799.6
42.5°	1493.7	1551.8	1635.5	1713.6	1739.3
45°	1413.3	1477.0	1567.4	1651.1	1679.0
47.5°	1331.8	1402.2	1501.5	1586.4	1618.7
50°	1250.3	1325.1	1429.0	1520.5	1554.0
52.5°	1167.7	1245.9	1358.6	1455.8	1485.9
55°	1089.6	1166.6	1283.8	1379.8	1417.8
57.5°	999.2	1086.2	1210.1	1307.3	1344.1
60°	917.7	1002.5	1127.5	1230.2	1270.4
62.5°	829.5	916.5	1048.3	1151.0	1190.1
65°	744.6	833.9	964.5	1067.3	1106.3
67.5°	653.1	746.9	880.8	980.2	1018.1
70°	571.6	659.8	791.5	893.1	931.1
72.5°	472.2	572.7	698.9	799.3	840.6
75°	387.4	486.7	607.3	703.3	727.9
77.5°	298.1	397.4	516.9	579.4	596.1
80°	218.8	312.6	408.6	442.1	443.2
82.5°	147.4	230.0	284.7	301.4	299.2
85°	81.5	140.7	155.2	150.7	146.2
87.5°	33.5	46.9	38.0	26.8	21.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)