

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: P475295

Luminaire Tested: **22CZ2-24VHE-SQR-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475295  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-24VHE-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: 2340.8 lumens  
Efficiency: N/A  
Efficacy: 141.9 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

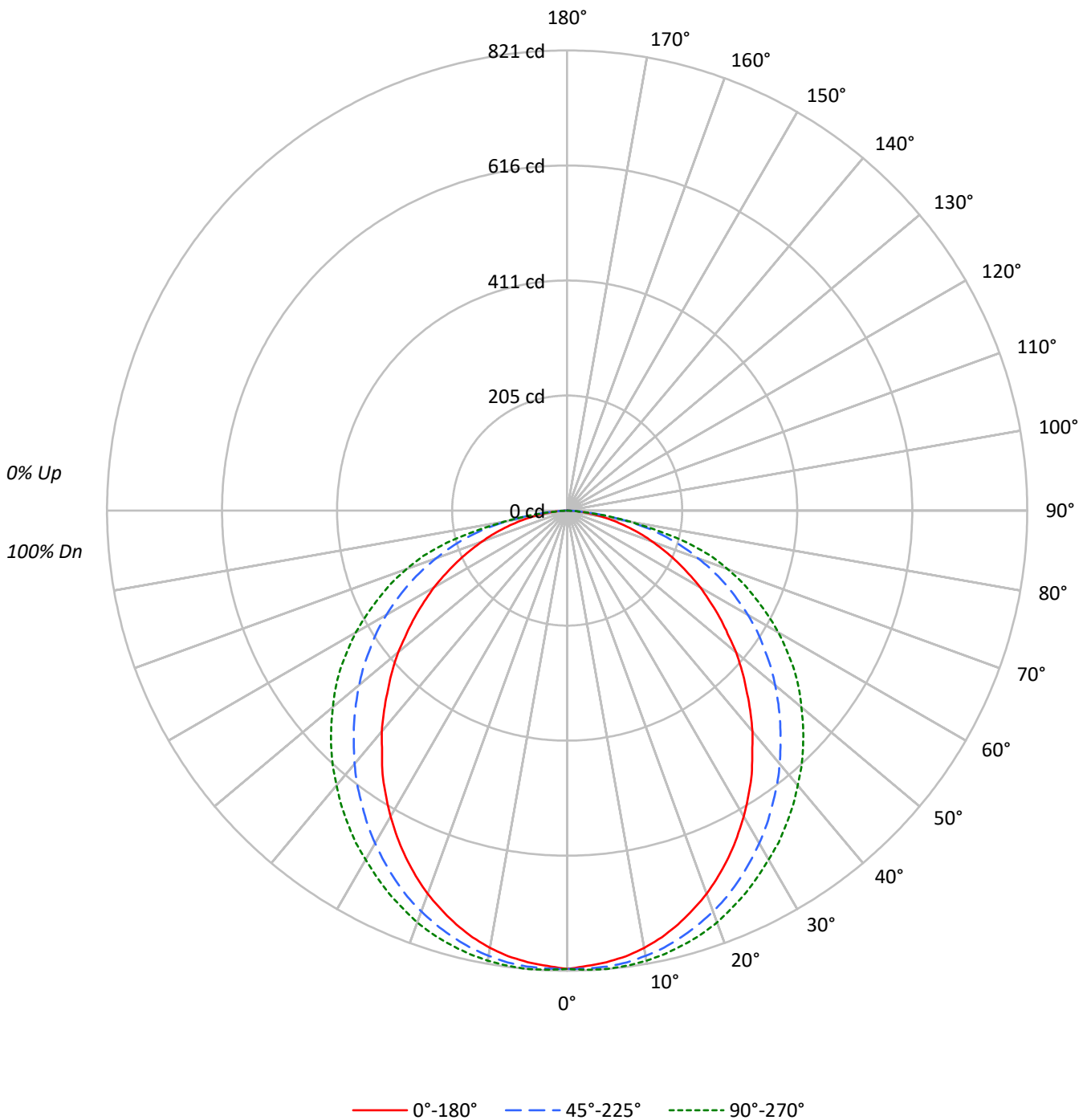
Input Watts (W): 16.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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					100			
1	109	104	99	95	106	101	97	94	97	94	91	93	91	88	90	87	85	83					83			
2	99	90	83	77	96	88	82	76	85	79	75	81	77	73	78	75	71	69					69			
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58					58			
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49					49			
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43					43			
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37					37			
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33					33			
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29					29			
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26					26			
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24					24			

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

	0°	45°	90°
0°	2200	2200	2200
5°	2185	2206	2218
10°	2165	2204	2228
15°	2130	2194	2235
20°	2084	2180	2240
25°	2026	2157	2236
30°	1957	2130	2234
35°	1887	2099	2241
40°	1807	2073	2248
45°	1721	2046	2266
50°	1647	2028	2284
55°	1559	2012	2320
60°	1477	2004	2344
65°	1379	1987	2362
70°	1267	1958	2395
75°	1144	1906	2309
80°	981	1688	1739
85°	790	994	790



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.5	3.3
10°-20°	221.6	9.5
20°-30°	332.9	14.2
30°-40°	397.0	17.0
40°-50°	410.5	17.5
50°-60°	377.4	16.1
60°-70°	300.4	12.8
70°-80°	183.6	7.8
80°-90°	39.9	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°	632.1	27.0
0°-40°	1029.1	44.0
0°-60°	1817.0	77.6
0°-90°	2340.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2340.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	818	818	818	818	818	
5°	809	811	817	820	821	77
15°	764	773	788	799	802	215
25°	682	699	727	747	753	314
35°	574	599	639	672	682	358
45°	452	484	538	581	596	350
55°	332	369	429	478	494	297
65°	217	253	312	356	371	215
75°	110	142	183	216	222	117
85°	26	31	32	28	26	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	817.7	817.7	817.7	817.7	817.7
2.5°	813.2	814.3	817.7	820.0	820.0
5°	808.8	811.0	816.6	820.0	821.1
7.5°	802.2	805.5	813.2	817.7	818.9
10°	792.2	796.6	806.6	813.2	815.4
12.5°	779.9	786.6	798.9	807.7	809.9
15°	764.4	773.3	787.7	798.9	802.2
17.5°	746.6	757.7	775.5	788.9	793.3
20°	727.7	738.9	761.1	776.6	782.1
22.5°	705.5	719.9	745.5	763.3	767.7
25°	682.2	698.8	726.6	746.6	753.2
27.5°	656.6	676.7	706.6	731.1	736.6
30°	629.9	651.1	685.5	712.2	718.8
32.5°	602.2	626.6	663.3	693.2	702.2
35°	574.4	598.8	638.8	672.2	682.2
37.5°	542.2	571.0	615.6	650.0	662.1
40°	514.4	542.2	590.0	627.7	640.0
42.5°	483.3	513.3	563.3	604.4	618.9
45°	452.2	484.4	537.7	581.1	595.5
47.5°	423.3	455.5	511.1	556.7	571.0
50°	393.3	426.6	484.4	531.1	545.5
52.5°	361.1	397.7	457.7	504.4	521.1
55°	332.2	368.8	428.8	477.7	494.5
57.5°	302.2	339.9	402.3	448.8	464.5
60°	274.4	311.0	372.3	417.7	435.6
62.5°	244.4	282.1	342.1	386.6	403.4
65°	216.6	253.4	312.1	355.5	371.0
67.5°	188.8	225.6	281.0	322.2	339.9
70°	161.0	197.8	248.8	288.9	304.4
72.5°	136.7	168.9	217.7	254.5	268.9
75°	110.0	142.2	183.3	215.5	222.1
77.5°	85.6	114.5	148.9	163.3	165.6
80°	63.3	85.6	108.9	112.2	112.2
82.5°	42.2	58.9	67.7	68.8	67.7
85°	25.6	31.1	32.2	27.8	25.6
87.5°	8.9	8.9	5.5	3.3	1.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)