

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: P475174

Luminaire Tested: **22CZ2-29HE-HRP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475174  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-29HE-HRP-UNV-L840-CD1-U  
Description: 2'X2' TROFFER LED MODULE, 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: 2461.4 lumens  
Efficiency: N/A  
Efficacy: 117.8 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

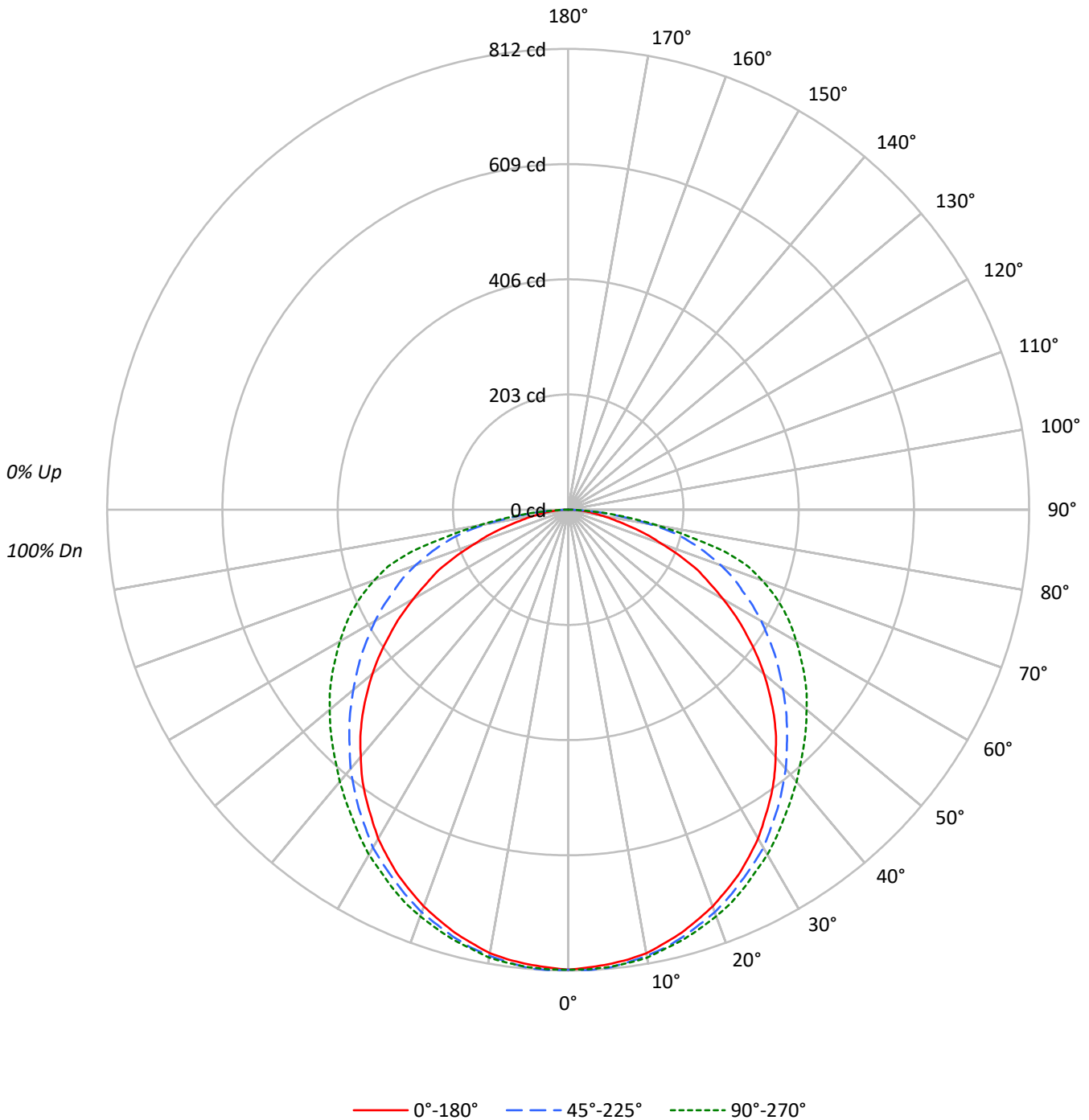
Input Watts (W): 20.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	2181	2181	2181
5°	2173	2189	2185
10°	2168	2181	2190
15°	2150	2172	2184
20°	2130	2161	2183
25°	2107	2144	2181
30°	2079	2137	2181
35°	2040	2112	2178
40°	1996	2094	2198
45°	1950	2074	2234
50°	1885	2067	2295
55°	1799	2084	2382
60°	1696	2114	2499
65°	1601	2155	2670
70°	1368	2248	2858
75°	1147	2341	2970
80°	939	2261	2478
85°	812	1677	1822



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	76.8	3.1
10°-20°	219.7	8.9
20°-30°	333.0	13.5
30°-40°	402.1	16.3
40°-50°	422.5	17.2
50°-60°	397.5	16.2
60°-70°	331.5	13.5
70°-80°	219.6	8.9
80°-90°	58.5	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°	629.6	25.6
0°-40°	1031.7	41.9
0°-60°	1851.7	75.2
0°-90°	2461.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2461.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	810	810	810	810	810	
5°	804	806	810	810	809	76
15°	772	775	780	783	784	218
25°	710	714	722	731	734	327
35°	621	627	643	657	663	388
45°	512	520	545	573	587	395
55°	384	401	444	489	508	343
65°	252	273	338	394	419	245
75°	110	154	225	272	286	120
85°	26	40	54	59	59	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	810.5	810.5	810.5	810.5	810.5
2.5°	807.4	809.0	812.1	812.1	810.5
5°	804.3	805.8	810.5	810.5	809.0
7.5°	799.6	801.3	804.3	807.4	805.8
10°	793.5	795.0	798.1	801.3	801.3
12.5°	782.6	784.1	790.3	792.0	792.0
15°	771.6	774.8	779.5	782.6	784.1
17.5°	757.8	760.8	767.0	773.3	773.3
20°	743.8	746.8	754.6	760.8	762.3
22.5°	726.7	731.3	739.1	746.8	750.0
25°	709.7	714.3	722.0	731.3	734.5
27.5°	689.3	694.0	705.0	715.8	717.3
30°	669.2	673.9	687.8	697.2	701.8
32.5°	644.4	650.5	664.5	678.5	683.2
35°	621.0	627.4	642.9	656.9	663.0
37.5°	596.2	602.4	619.5	636.7	644.4
40°	568.2	576.1	596.2	614.9	625.7
42.5°	541.9	549.7	569.9	594.7	605.5
45°	512.4	520.1	545.1	572.9	586.9
47.5°	481.3	490.6	520.1	554.4	568.2
50°	450.3	461.1	493.8	532.6	548.1
52.5°	417.6	431.6	468.9	510.9	529.4
55°	383.5	400.6	444.1	489.1	507.8
57.5°	350.8	366.5	417.6	465.8	485.9
60°	315.2	335.3	392.8	442.5	464.3
62.5°	281.0	302.8	366.5	419.3	442.5
65°	251.5	273.2	338.5	394.3	419.3
67.5°	212.7	242.2	315.2	368.0	392.8
70°	173.9	214.2	285.7	340.0	363.3
72.5°	144.4	183.2	256.2	310.5	332.3
75°	110.3	153.8	225.2	271.7	285.7
77.5°	82.3	127.3	192.6	215.9	217.4
80°	60.6	97.8	145.9	153.8	159.9
82.5°	42.0	68.3	94.8	104.0	107.1
85°	26.3	40.3	54.3	59.0	59.0
87.5°	14.0	15.5	18.7	18.7	18.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)