

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: P475178

Luminaire Tested: **22CZ2-20VHE-HRP-UNV-L840-CD1-U**

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475178  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-20VHE-HRP-UNV-L840-CD1-U  
Description: 2'X2' TROFFER LED MODULE, VERY 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: 1680.6 lumens  
Efficiency: N/A  
Efficacy: 121.8 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

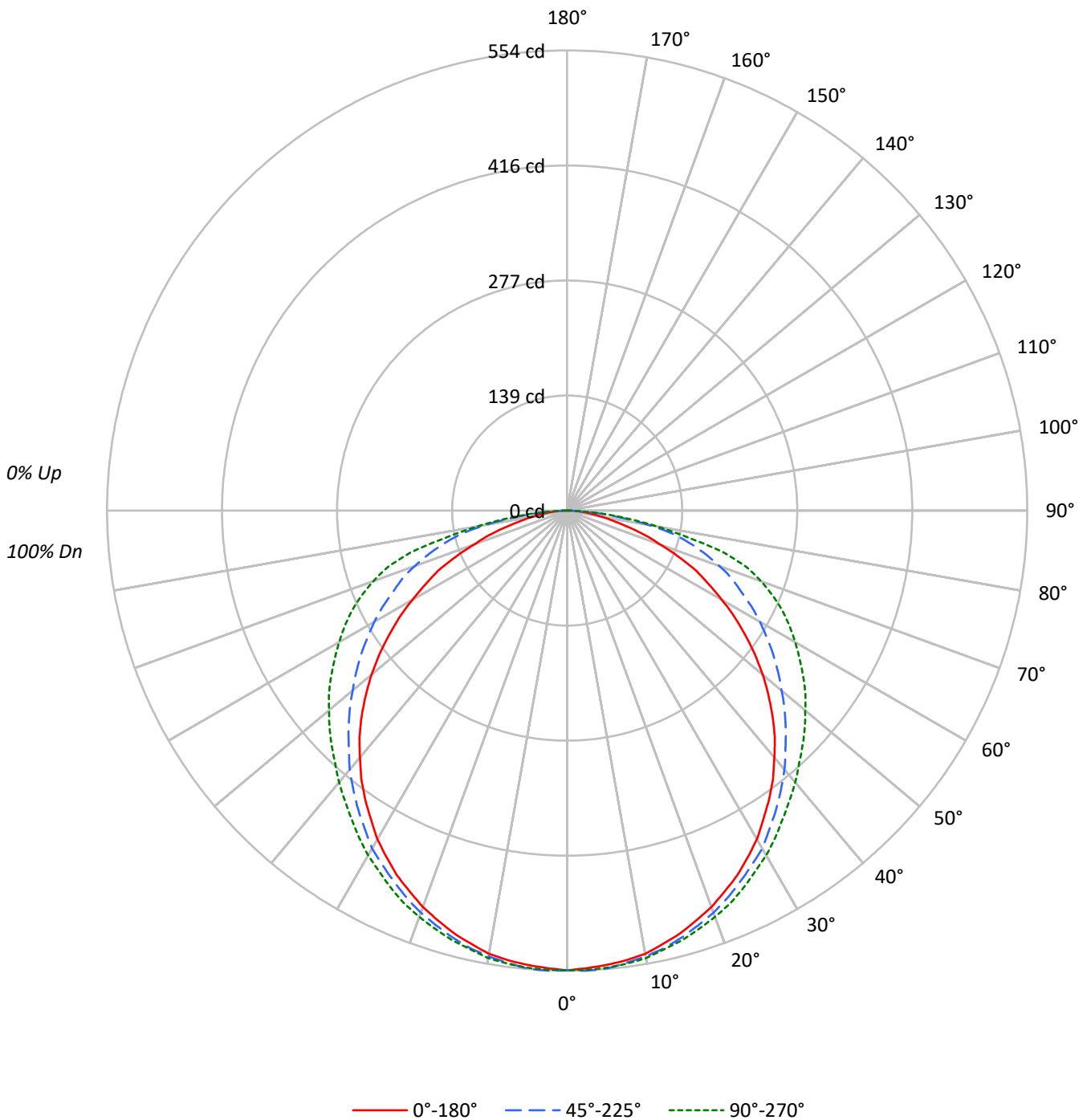
Input Watts (W): 13.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1489	1489	1489
5°	1483	1495	1492
10°	1480	1489	1495
15°	1468	1483	1492
20°	1454	1475	1491
25°	1439	1464	1489
30°	1420	1459	1489
35°	1393	1442	1487
40°	1363	1430	1501
45°	1332	1416	1525
50°	1287	1411	1567
55°	1228	1422	1627
60°	1158	1443	1706
65°	1093	1472	1823
70°	934	1535	1952
75°	783	1599	2028
80°	642	1543	1692
85°	556	1145	1244



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.4	3.1
10°-20°	150.0	8.9
20°-30°	227.4	13.5
30°-40°	274.5	16.3
40°-50°	288.5	17.2
50°-60°	271.4	16.2
60°-70°	226.3	13.5
70°-80°	150.0	8.9
80°-90°	40.0	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°	429.8	25.6
0°-40°	704.4	41.9
0°-60°	1264.3	75.2
0°-90°	1680.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1680.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	553	553	553	553	553	
5°	549	550	553	553	552	52
15°	527	529	532	534	535	149
25°	484	488	493	499	502	223
35°	424	428	439	448	453	265
45°	350	355	372	391	401	269
55°	262	274	303	334	347	234
65°	172	186	231	269	286	167
75°	75	105	154	186	195	82
85°	18	28	37	40	40	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	553.4	553.4	553.4	553.4	553.4
2.5°	551.3	552.3	554.5	554.5	553.4
5°	549.1	550.2	553.4	553.4	552.3
7.5°	546.0	547.1	549.1	551.3	550.2
10°	541.7	542.8	544.9	547.1	547.1
12.5°	534.3	535.4	539.6	540.7	540.7
15°	526.8	529.0	532.2	534.3	535.4
17.5°	517.4	519.5	523.7	528.0	528.0
20°	507.8	509.9	515.2	519.5	520.5
22.5°	496.1	499.3	504.7	509.9	512.1
25°	484.5	487.7	493.0	499.3	501.5
27.5°	470.7	473.8	481.3	488.7	489.8
30°	456.9	460.1	469.6	476.0	479.2
32.5°	439.9	444.2	453.7	463.3	466.5
35°	424.0	428.3	438.9	448.5	452.7
37.5°	407.1	411.3	423.0	434.7	439.9
40°	388.0	393.3	407.1	419.8	427.2
42.5°	370.0	375.3	389.1	406.1	413.4
45°	349.9	355.1	372.2	391.2	400.7
47.5°	328.6	335.0	355.1	378.5	388.0
50°	307.4	314.8	337.1	363.6	374.2
52.5°	285.1	294.7	320.2	348.8	361.5
55°	261.8	273.5	303.2	333.9	346.7
57.5°	239.5	250.2	285.1	318.0	331.8
60°	215.2	229.0	268.2	302.1	317.0
62.5°	191.9	206.8	250.2	286.3	302.1
65°	171.7	186.5	231.1	269.2	286.3
67.5°	145.2	165.4	215.2	251.3	268.2
70°	118.7	146.3	195.1	232.1	248.1
72.5°	98.6	125.1	174.9	212.0	226.9
75°	75.3	105.0	153.8	185.5	195.1
77.5°	56.2	86.9	131.5	147.4	148.4
80°	41.4	66.8	99.6	105.0	109.2
82.5°	28.7	46.6	64.7	71.0	73.1
85°	18.0	27.5	37.1	40.3	40.3
87.5°	9.6	10.6	12.7	12.7	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)