

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: P475172

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

Issue Date: 02/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P475172  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-20HE-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: 1675.6 lumens  
Efficiency: N/A  
Efficacy: 111.7 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

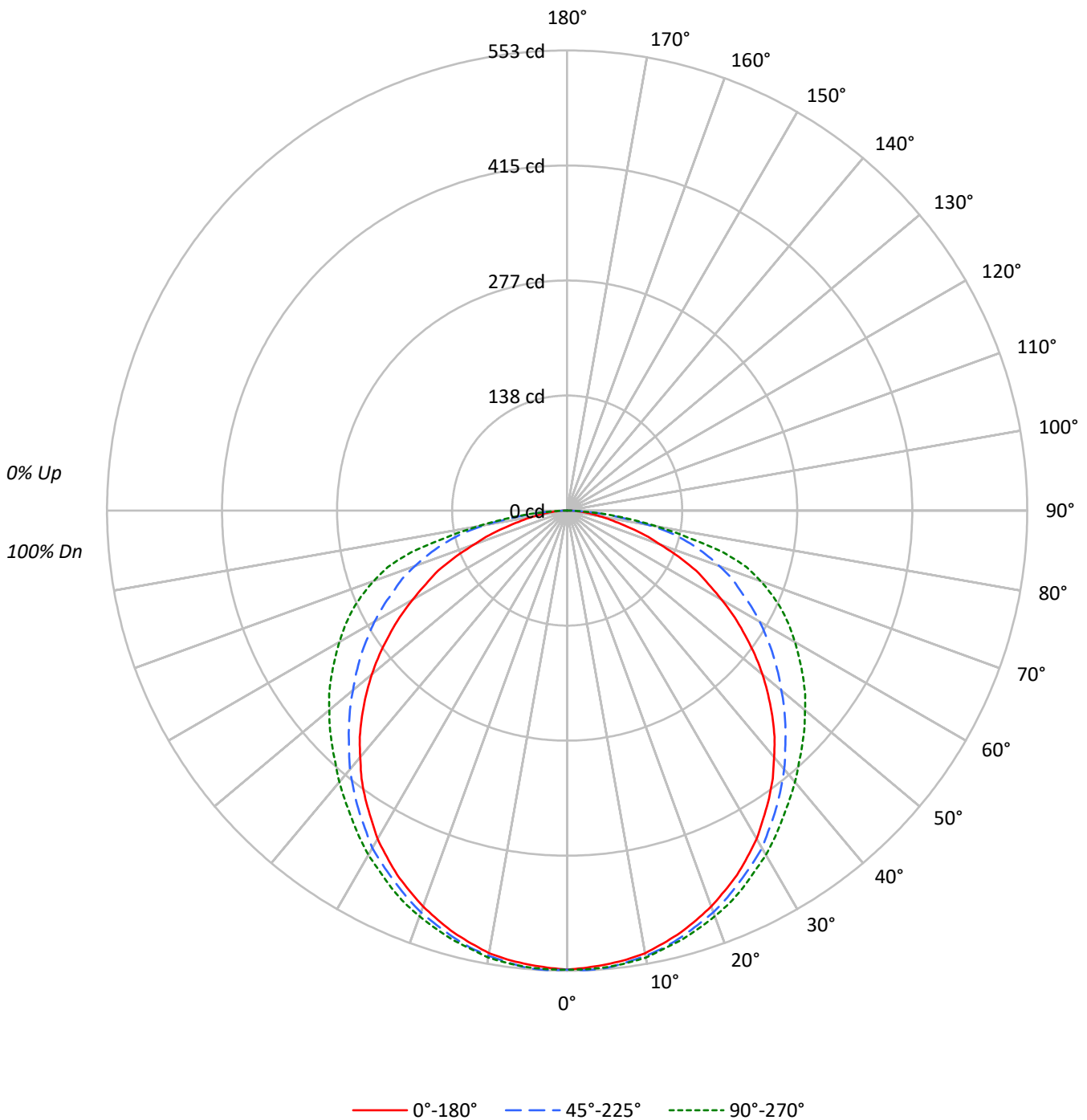
Input Watts (W): 15  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	87	84	82					82			
2	98	89	82	76	95	87	80	75	84	78	73	80	75	71	77	73	70	68					68			
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56					56			
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	50	48					48			
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	39	50	43	38	49	43	38	36					36			
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31					31			
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28					28			
9	55	42	33	28	54	41	33	27	40	32	27	39	32	27	38	31	27	25					25			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23					23			

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

	0°	45°	90°
0°	1485	1485	1485
5°	1479	1490	1488
10°	1476	1485	1491
15°	1463	1478	1487
20°	1450	1471	1486
25°	1434	1459	1485
30°	1416	1455	1485
35°	1389	1438	1483
40°	1359	1426	1496
45°	1327	1412	1520
50°	1283	1407	1562
55°	1225	1418	1622
60°	1155	1439	1701
65°	1090	1467	1817
70°	932	1530	1946
75°	781	1594	2022
80°	640	1539	1688
85°	553	1142	1238



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.3	3.1
10°-20°	149.6	8.9
20°-30°	226.7	13.5
30°-40°	273.8	16.3
40°-50°	287.6	17.2
50°-60°	270.6	16.2
60°-70°	225.6	13.5
70°-80°	149.5	8.9
80°-90°	39.8	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°	428.6	25.6
0°-40°	702.3	41.9
0°-60°	1260.6	75.2
0°-90°	1675.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1675.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	552	552	552	552	552	
5°	548	548	552	552	551	52
15°	525	527	531	533	534	148
25°	483	486	492	498	500	222
35°	423	427	438	447	451	264
45°	349	354	371	390	400	269
55°	261	273	302	333	346	234
65°	171	186	230	268	285	167
75°	75	105	153	185	194	81
85°	18	27	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°	551.7	551.7	551.7	551.7	551.7
2.5°	549.7	550.7	552.8	552.8	551.7
5°	547.5	548.5	551.7	551.7	550.7
7.5°	544.3	545.5	547.5	549.7	548.5
10°	540.1	541.2	543.3	545.5	545.5
12.5°	532.8	533.8	538.0	539.1	539.1
15°	525.3	527.4	530.6	532.8	533.8
17.5°	515.9	517.9	522.1	526.4	526.4
20°	506.3	508.4	513.7	517.9	518.9
22.5°	494.7	497.8	503.2	508.4	510.5
25°	483.1	486.3	491.5	497.8	500.0
27.5°	469.3	472.4	479.9	487.3	488.3
30°	455.6	458.7	468.3	474.6	477.8
32.5°	438.7	442.9	452.4	461.9	465.1
35°	422.8	427.1	437.6	447.2	451.4
37.5°	405.9	410.1	421.8	433.4	438.7
40°	386.8	392.2	405.9	418.6	426.0
42.5°	368.9	374.2	388.0	404.9	412.2
45°	348.8	354.1	371.1	390.0	399.5
47.5°	327.6	334.0	354.1	377.4	386.8
50°	306.5	313.9	336.1	362.6	373.1
52.5°	284.3	293.8	319.2	347.8	360.4
55°	261.1	272.7	302.3	333.0	345.7
57.5°	238.8	249.5	284.3	317.1	330.8
60°	214.6	228.3	267.4	301.2	316.1
62.5°	191.3	206.2	249.5	285.4	301.2
65°	171.2	186.0	230.4	268.4	285.4
67.5°	144.8	164.9	214.6	250.5	267.4
70°	118.4	145.8	194.5	231.5	247.3
72.5°	98.3	124.7	174.4	211.4	226.2
75°	75.1	104.7	153.3	185.0	194.5
77.5°	56.0	86.6	131.1	147.0	148.0
80°	41.3	66.6	99.3	104.7	108.9
82.5°	28.6	46.5	64.5	70.8	72.9
85°	17.9	27.4	37.0	40.1	40.1
87.5°	9.5	10.5	12.7	12.7	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)