

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: FAIL-SAFE

Report Number: P312743

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-CA08-W2A-U-4500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P312743  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 22FCZ2-20HE-UNV-L83050-CA08-W2A-U-4500K  
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (168) 4500K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2062.0 lumens  
Efficiency: N/A  
Efficacy: 117.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

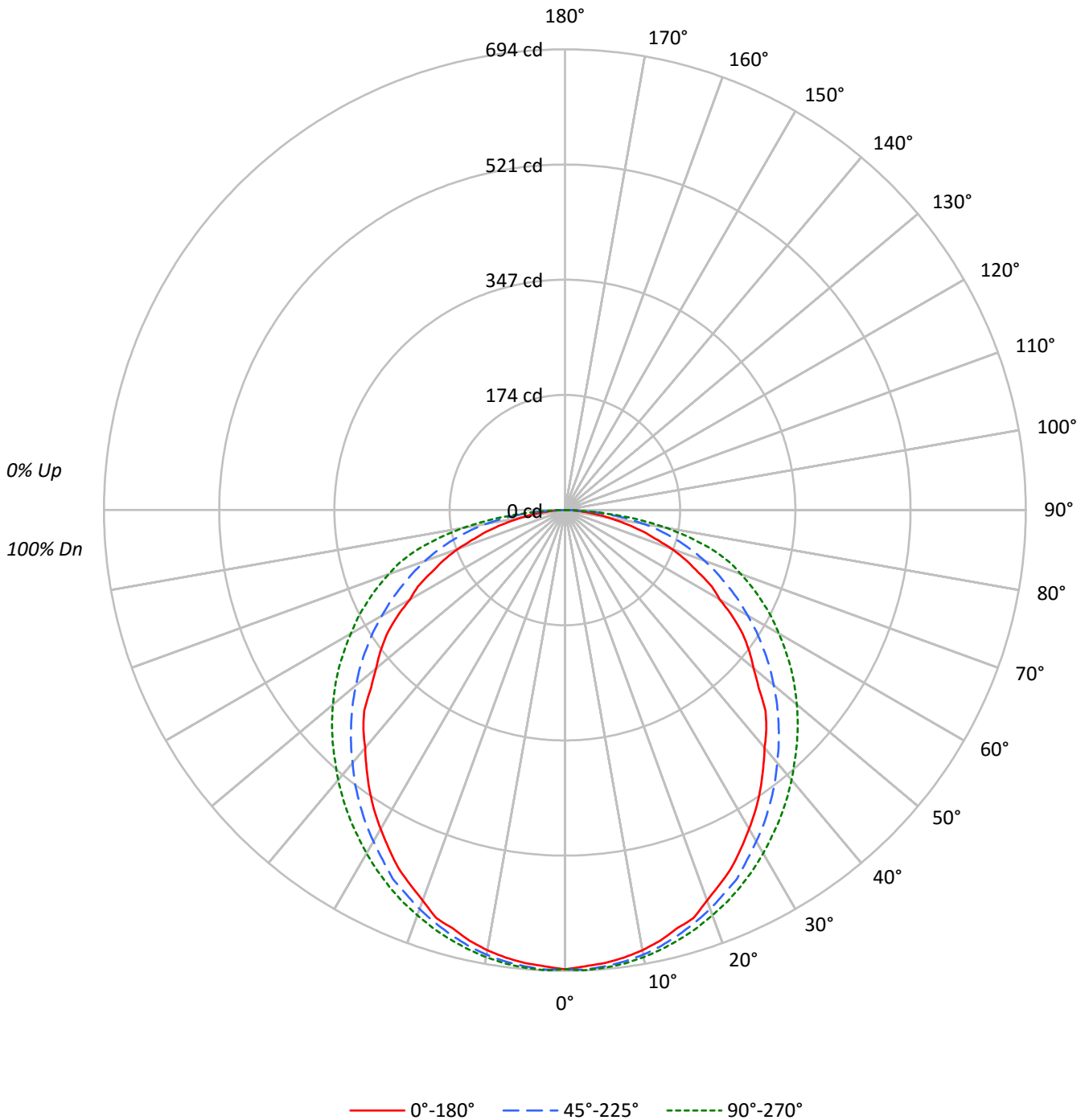
Input Watts (W): 17.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	96	92	96	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	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	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
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	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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

	0°	45°	90°
0°	1862	1862	1862
5°	1850	1863	1869
10°	1839	1858	1869
15°	1817	1845	1864
20°	1792	1831	1860
25°	1764	1820	1858
30°	1723	1791	1855
35°	1686	1770	1858
40°	1643	1747	1865
45°	1626	1732	1881
50°	1554	1719	1909
55°	1537	1713	1949
60°	1450	1710	2003
65°	1408	1722	2092
70°	1351	1762	2221
75°	1231	1816	2390
80°	1055	1881	2416
85°	852	1797	2072



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	65.5	3.2
10°-20°	186.7	9.1
20°-30°	281.1	13.6
30°-40°	337.3	16.4
40°-50°	352.6	17.1
50°-60°	328.6	15.9
60°-70°	269.5	13.1
70°-80°	181.6	8.8
80°-90°	59.2	2.9
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°	533.3	25.9
0°-40°	870.6	42.2
0°-60°	1551.8	75.3
0°-90°	2062.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2062.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	692	692	692	692	692	
5°	685	687	690	691	692	65
15°	652	656	662	668	669	184
25°	594	598	613	622	626	273
35°	513	520	539	558	566	321
45°	427	430	455	483	494	326
55°	328	334	365	400	416	290
65°	221	231	270	310	329	220
75°	118	131	175	214	230	124
85°	28	40	58	68	67	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	691.8	691.8	691.8	691.8	691.8
2.5°	687.9	689.8	692.8	693.8	693.8
5°	684.9	686.9	689.8	690.8	691.8
7.5°	680.0	681.9	685.9	687.9	688.9
10°	673.1	675.0	680.0	682.9	683.9
12.5°	664.2	666.2	672.1	676.0	677.0
15°	652.3	656.3	662.2	668.1	669.1
17.5°	644.4	643.5	651.4	658.3	660.2
20°	625.7	630.6	639.5	647.4	649.4
22.5°	609.9	613.9	625.7	634.6	638.5
25°	594.1	598.1	612.9	621.7	625.7
27.5°	574.4	580.3	594.1	606.9	611.9
30°	554.6	560.6	576.4	591.2	597.1
32.5°	534.9	541.8	558.6	574.4	581.3
35°	513.2	520.1	538.8	557.6	565.5
37.5°	490.5	499.4	519.1	539.8	548.7
40°	467.8	476.7	497.4	521.1	531.0
42.5°	449.0	453.0	476.7	502.3	512.2
45°	427.3	430.3	455.0	482.6	494.4
47.5°	395.7	406.6	433.3	463.8	475.7
50°	371.1	382.9	410.6	443.1	455.9
52.5°	350.4	358.2	388.8	421.4	436.2
55°	327.7	333.6	365.2	399.7	415.5
57.5°	300.0	310.9	342.5	378.0	393.8
60°	269.4	283.2	317.8	356.3	372.1
62.5°	249.7	257.6	295.1	333.6	351.3
65°	221.1	230.9	270.4	309.9	328.6
67.5°	197.4	207.2	247.7	287.2	305.9
70°	171.7	181.6	224.0	263.5	282.3
72.5°	142.1	155.9	200.3	239.8	259.6
75°	118.4	131.3	174.7	214.2	229.9
77.5°	91.8	108.6	149.0	181.6	193.4
80°	68.1	84.9	121.4	145.1	155.9
82.5°	46.4	63.2	90.8	108.6	114.5
85°	27.6	39.5	58.2	68.1	67.1
87.5°	12.8	16.8	23.7	23.7	22.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)