

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: P308649

Luminaire Tested: **22FCZ2-24HE-UNV-L82765-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: P308649
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: 22FCZ2-24HE-UNV-L82765-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3000K 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: 2230.0 lumens
Efficiency: N/A
Efficacy: 115.5 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

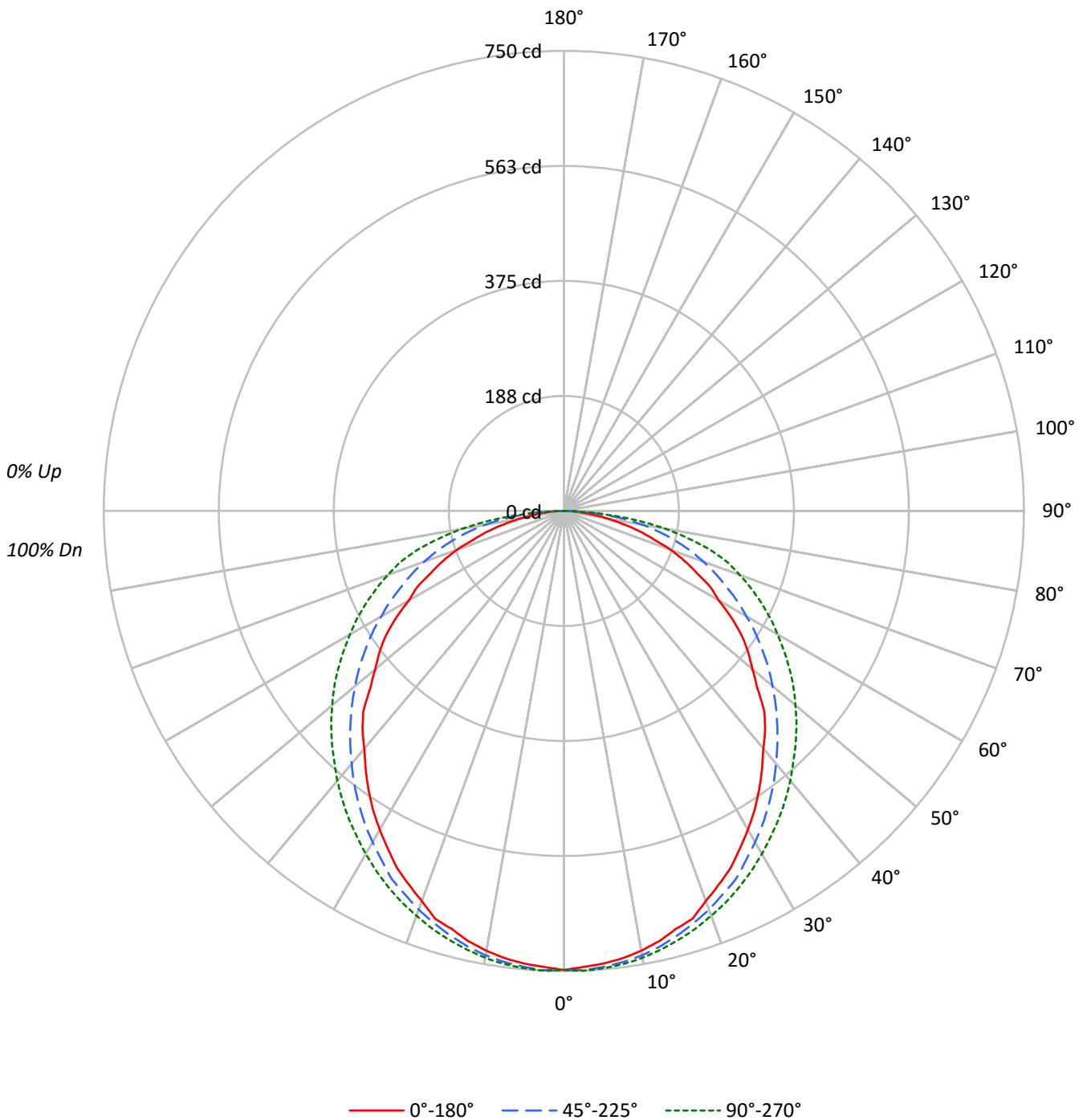
Input Watts (W): 19.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2013	2013	2013
5°	2001	2015	2021
10°	1989	2009	2021
15°	1965	1995	2016
20°	1938	1981	2011
25°	1908	1968	2009
30°	1864	1937	2006
35°	1823	1915	2009
40°	1777	1890	2017
45°	1759	1872	2035
50°	1680	1859	2064
55°	1662	1853	2108
60°	1568	1850	2166
65°	1522	1862	2263
70°	1461	1906	2402
75°	1332	1964	2586
80°	1141	2035	2613
85°	923	1945	2242



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.8	3.2
10°-20°	202.0	9.1
20°-30°	304.0	13.6
30°-40°	364.8	16.4
40°-50°	381.3	17.1
50°-60°	355.4	15.9
60°-70°	291.5	13.1
70°-80°	196.4	8.8
80°-90°	64.0	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°	576.7	25.9
0°-40°	941.5	42.2
0°-60°	1678.2	75.3
0°-90°	2230.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2230.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	748	748	748	748	748	
5°	741	743	746	747	748	70
15°	706	710	716	723	724	199
25°	642	647	663	672	677	295
35°	555	562	583	603	612	347
45°	462	465	492	522	535	353
55°	354	361	395	432	449	314
65°	239	250	292	335	355	238
75°	128	142	189	232	249	135
85°	30	43	63	74	73	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	748.2	748.2	748.2	748.2	748.2
2.5°	743.9	746.0	749.3	750.3	750.3
5°	740.7	742.8	746.0	747.1	748.2
7.5°	735.4	737.5	741.8	743.9	745.0
10°	727.9	730.0	735.4	738.6	739.6
12.5°	718.3	720.4	726.8	731.1	732.2
15°	705.5	709.8	716.2	722.6	723.6
17.5°	697.0	695.9	704.4	711.9	714.0
20°	676.7	682.0	691.6	700.2	702.3
22.5°	659.6	663.9	676.7	686.3	690.5
25°	642.5	646.8	662.8	672.4	676.7
27.5°	621.2	627.6	642.5	656.4	661.7
30°	599.8	606.2	623.3	639.3	645.7
32.5°	578.5	586.0	604.1	621.2	628.6
35°	555.0	562.5	582.8	603.0	611.6
37.5°	530.5	540.1	561.4	583.8	593.4
40°	505.9	515.5	537.9	563.5	574.2
42.5°	485.6	489.9	515.5	543.3	553.9
45°	462.1	465.3	492.0	521.9	534.7
47.5°	428.0	439.7	468.5	501.6	514.4
50°	401.3	414.1	444.0	479.2	493.1
52.5°	378.9	387.4	420.5	455.7	471.8
55°	354.3	360.8	394.9	432.3	449.3
57.5°	324.5	336.2	370.4	408.8	425.9
60°	291.4	306.3	343.7	385.3	402.4
62.5°	270.0	278.6	319.1	360.8	380.0
65°	239.1	249.8	292.4	335.1	355.4
67.5°	213.5	224.1	267.9	310.6	330.9
70°	185.7	196.4	242.3	285.0	305.3
72.5°	153.7	168.6	216.7	259.4	280.7
75°	128.1	142.0	188.9	231.6	248.7
77.5°	99.3	117.4	161.2	196.4	209.2
80°	73.6	91.8	131.3	156.9	168.6
82.5°	50.2	68.3	98.2	117.4	123.8
85°	29.9	42.7	63.0	73.6	72.6
87.5°	13.9	18.1	25.6	25.6	24.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)