

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: P308946

Luminaire Tested: **22FCZ2-24HE-UNV-L82765-S-CP187-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: P308946
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
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-S-CP187-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 2201.0 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

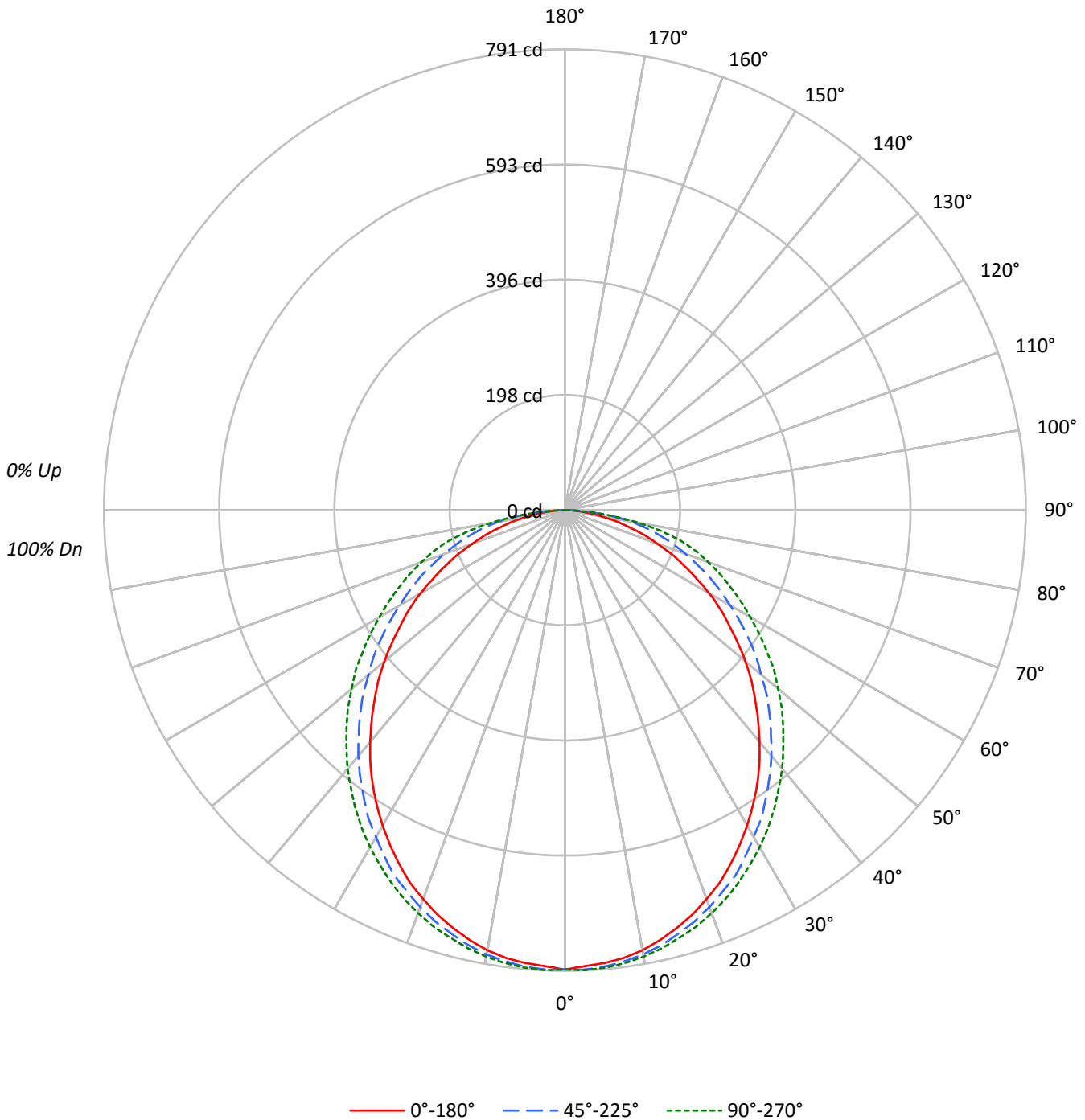
Input Watts (W): 19.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2122	2122	2122
5°	2108	2125	2130
10°	2096	2116	2127
15°	2069	2097	2117
20°	2035	2076	2109
25°	1994	2055	2095
30°	1943	2014	2077
35°	1889	1977	2058
40°	1825	1937	2038
45°	1759	1891	2017
50°	1694	1840	1999
55°	1614	1807	1985
60°	1542	1763	1978
65°	1438	1752	2001
70°	1325	1737	2061
75°	1196	1761	2168
80°	1035	1815	2036
85°	855	1522	1522



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.6	3.4
10°-20°	212.3	9.6
20°-30°	317.6	14.4
30°-40°	376.1	17.1
40°-50°	383.3	17.4
50°-60°	343.5	15.6
60°-70°	269.0	12.2
70°-80°	173.4	7.9
80°-90°	51.2	2.3
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°	604.4	27.5
0°-40°	980.5	44.5
0°-60°	1707.4	77.6
0°-90°	2201.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2201.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	789	789	789	789	789	
5°	780	782	787	788	789	74
15°	742	747	753	759	760	209
25°	672	678	692	701	706	309
35°	575	582	602	620	626	359
45°	462	472	497	523	530	357
55°	344	355	385	412	423	308
65°	226	239	275	302	314	224
75°	115	132	169	198	208	123
85°	28	38	49	49	49	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	788.7	788.7	788.7	788.7	788.7
2.5°	783.6	785.6	789.7	790.7	790.7
5°	780.5	782.5	786.6	787.7	788.7
7.5°	775.3	776.4	781.5	783.6	784.6
10°	767.1	769.2	774.3	777.4	778.4
12.5°	755.8	758.9	765.1	769.2	770.2
15°	742.5	746.6	752.7	758.9	759.9
17.5°	728.1	732.2	740.4	747.6	749.7
20°	710.6	715.8	725.0	733.2	736.3
22.5°	693.2	697.3	708.6	718.9	721.9
25°	671.6	677.8	692.2	701.4	705.5
27.5°	649.0	656.2	670.6	682.9	687.0
30°	625.4	632.6	648.0	663.4	668.5
32.5°	600.8	609.0	627.5	642.9	648.0
35°	575.1	582.3	601.8	620.3	626.4
37.5°	548.4	554.5	577.1	596.6	602.8
40°	519.6	527.8	551.5	574.1	580.2
42.5°	490.9	500.1	523.7	548.4	554.5
45°	462.1	472.4	497.0	522.7	529.9
47.5°	434.4	442.6	470.3	495.0	505.3
50°	404.6	412.8	439.5	467.3	477.5
52.5°	373.8	385.1	413.9	440.6	452.9
55°	344.0	355.3	385.1	411.8	423.1
57.5°	316.3	325.5	356.3	384.1	395.4
60°	286.5	294.7	327.6	357.4	367.6
62.5°	254.7	267.0	300.9	328.6	340.9
65°	225.9	239.3	275.2	301.9	314.2
67.5°	199.2	211.5	246.5	275.2	288.6
70°	168.4	184.8	220.8	249.5	261.9
72.5°	143.8	158.1	195.1	223.9	237.2
75°	115.0	132.5	169.4	198.2	208.5
77.5°	91.4	108.9	143.8	166.4	171.5
80°	66.8	84.2	117.1	128.4	131.4
82.5°	45.2	61.6	84.2	87.3	88.3
85°	27.7	38.0	49.3	49.3	49.3
87.5°	13.4	15.4	17.5	16.4	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)