

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: P308678

Luminaire Tested: **22FCZ2-24HE-UNV-L82765-CP187-W2A-U-5500K**

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: P308678
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-CP187-W2A-U-5500K
Description: 2'X2' TROFFER LED MODULE, RIBBED 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: 2136.0 lumens
Efficiency: N/A
Efficacy: 110.1 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

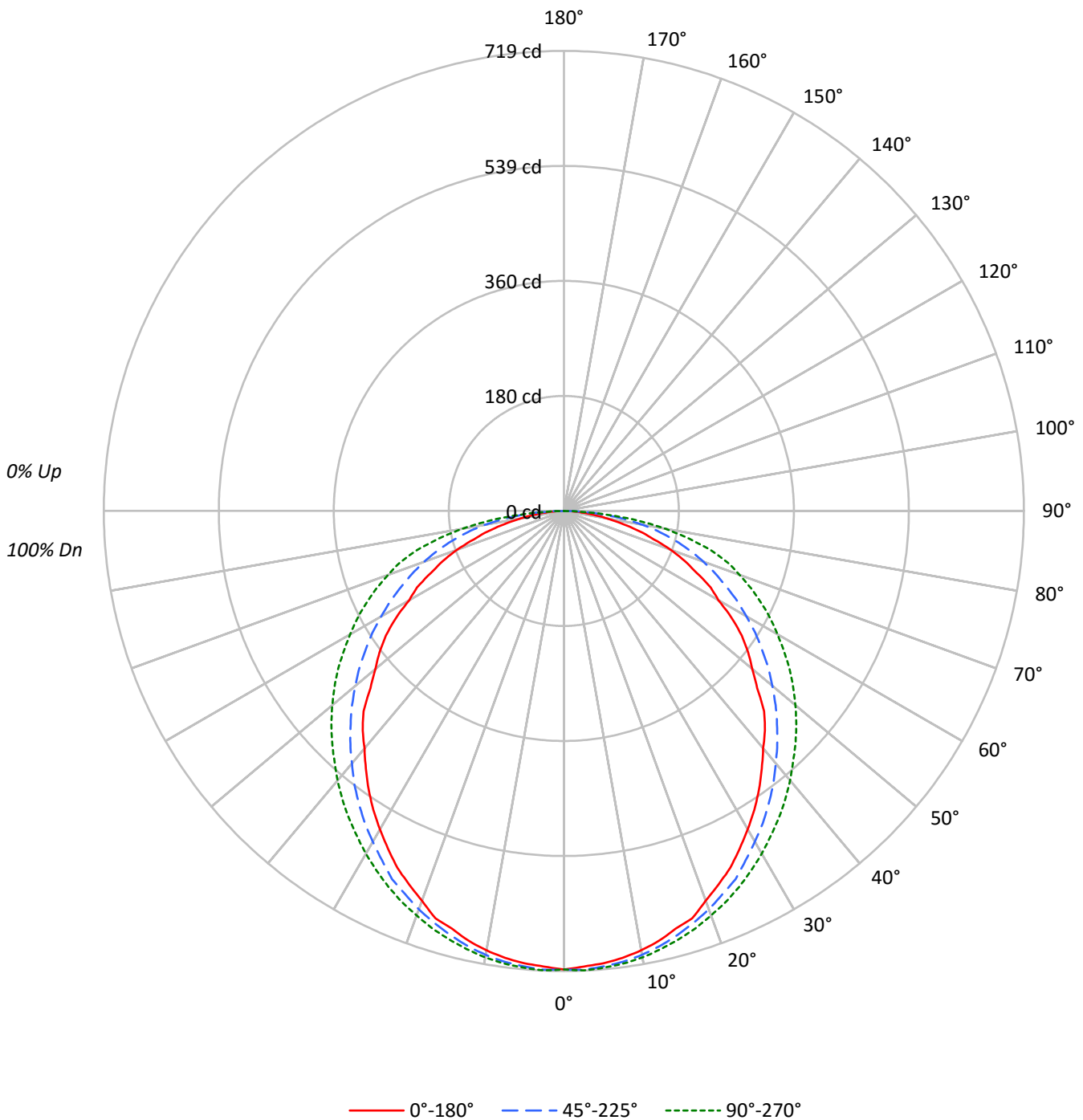
Input Watts (W): 19.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1928	1928	1928
5°	1917	1930	1936
10°	1905	1925	1936
15°	1883	1911	1931
20°	1856	1897	1926
25°	1827	1885	1925
30°	1785	1855	1922
35°	1746	1834	1924
40°	1702	1810	1932
45°	1685	1794	1949
50°	1609	1780	1977
55°	1592	1775	2019
60°	1502	1772	2074
65°	1458	1784	2167
70°	1400	1826	2301
75°	1276	1882	2477
80°	1093	1948	2503
85°	883	1862	2146



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.8	3.2
10°-20°	193.5	9.1
20°-30°	291.2	13.6
30°-40°	349.4	16.4
40°-50°	365.2	17.1
50°-60°	340.4	15.9
60°-70°	279.2	13.1
70°-80°	188.1	8.8
80°-90°	61.3	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°	552.4	25.9
0°-40°	901.9	42.2
0°-60°	1607.5	75.3
0°-90°	2136.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2136.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	717	717	717	717	717	
5°	710	712	715	716	717	67
15°	676	680	686	692	693	191
25°	615	620	635	644	648	283
35°	532	539	558	578	586	332
45°	443	446	471	500	512	338
55°	339	346	378	414	430	301
65°	229	239	280	321	340	228
75°	123	136	181	222	238	129
85°	29	41	60	70	70	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	716.6	716.6	716.6	716.6	716.6
2.5°	712.6	714.6	717.7	718.7	718.7
5°	709.5	711.5	714.6	715.6	716.6
7.5°	704.4	706.4	710.5	712.6	713.6
10°	697.2	699.3	704.4	707.4	708.5
12.5°	688.0	690.1	696.2	700.3	701.3
15°	675.8	679.8	686.0	692.1	693.1
17.5°	667.6	666.6	674.7	681.9	683.9
20°	648.2	653.3	662.5	670.6	672.7
22.5°	631.8	635.9	648.2	657.4	661.4
25°	615.4	619.5	634.9	644.1	648.2
27.5°	595.0	601.1	615.4	628.7	633.8
30°	574.5	580.7	597.0	612.4	618.5
32.5°	554.1	561.3	578.6	595.0	602.1
35°	531.6	538.8	558.2	577.6	585.8
37.5°	508.1	517.3	537.7	559.2	568.4
40°	484.6	493.8	515.2	539.8	550.0
42.5°	465.2	469.2	493.8	520.4	530.6
45°	442.7	445.7	471.3	499.9	512.2
47.5°	410.0	421.2	448.8	480.5	492.8
50°	384.4	396.7	425.3	459.0	472.3
52.5°	362.9	371.1	402.8	436.5	451.9
55°	339.4	345.5	378.3	414.0	430.4
57.5°	310.8	322.0	354.7	391.5	407.9
60°	279.1	293.4	329.2	369.1	385.4
62.5°	258.6	266.8	305.7	345.5	363.9
65°	229.0	239.2	280.1	321.0	340.4
67.5°	204.5	214.7	256.6	297.5	316.9
70°	177.9	188.1	232.1	273.0	292.4
72.5°	147.2	161.5	207.5	248.4	268.9
75°	122.7	136.0	181.0	221.8	238.2
77.5°	95.1	112.5	154.4	188.1	200.4
80°	70.5	87.9	125.7	150.3	161.5
82.5°	48.0	65.4	94.1	112.5	118.6
85°	28.6	40.9	60.3	70.5	69.5
87.5°	13.3	17.4	24.5	24.5	23.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)