

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: P308677

Luminaire Tested: **22FCZ2-24HE-UNV-L82765-CP187-W2A-U-5000K**

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: P308677
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-5000K
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: 2115.0 lumens
Efficiency: N/A
Efficacy: 109.6 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

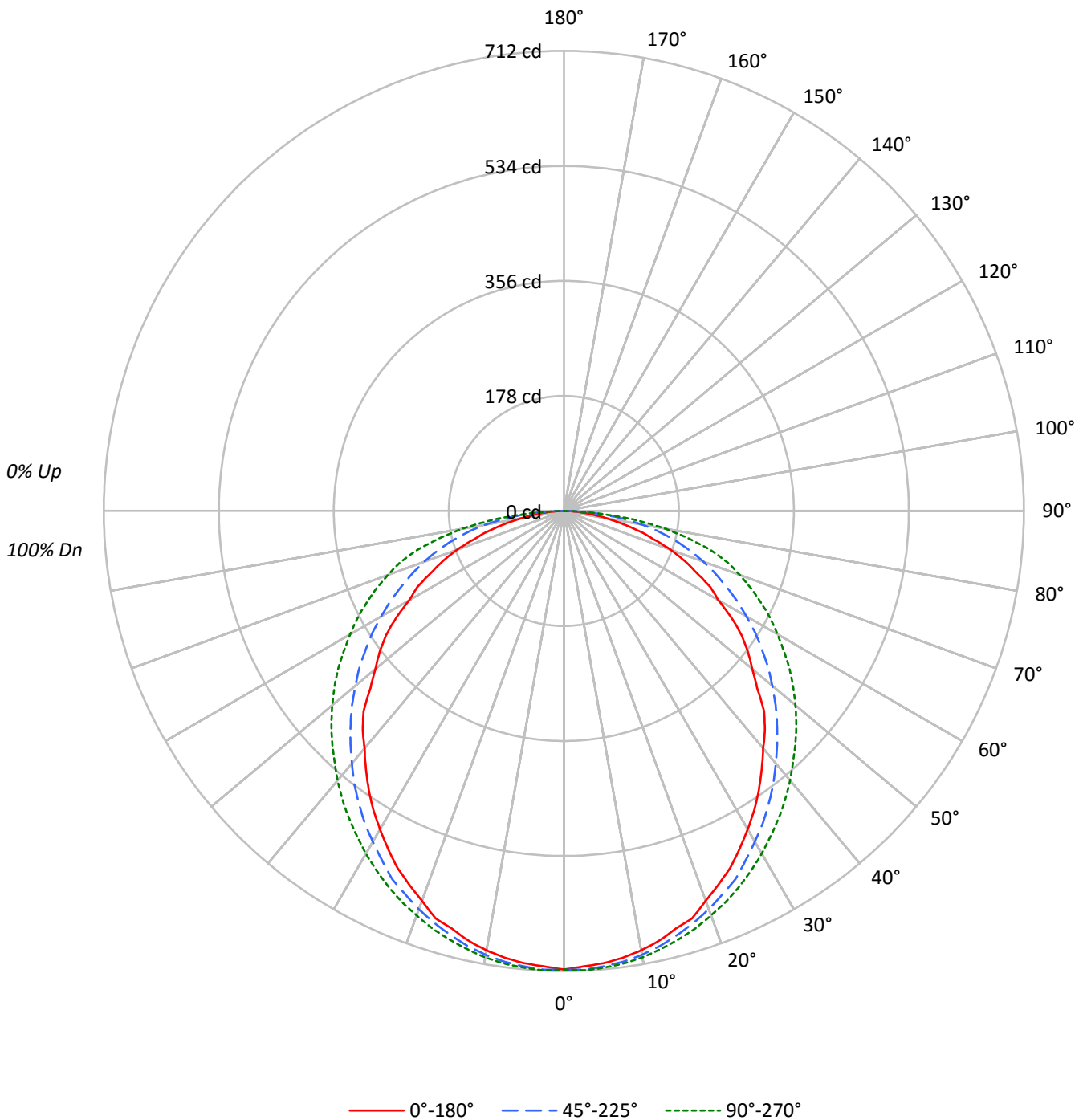
Input Watts (W): 19.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1910	1910	1910
5°	1898	1911	1917
10°	1887	1906	1917
15°	1864	1892	1912
20°	1838	1879	1907
25°	1809	1866	1906
30°	1768	1837	1903
35°	1729	1816	1905
40°	1685	1792	1913
45°	1668	1776	1930
50°	1593	1763	1958
55°	1577	1757	2000
60°	1487	1755	2054
65°	1443	1766	2146
70°	1386	1808	2278
75°	1263	1863	2453
80°	1082	1929	2478
85°	874	1843	2124



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.1	3.2
10°-20°	191.5	9.1
20°-30°	288.3	13.6
30°-40°	346.0	16.4
40°-50°	361.6	17.1
50°-60°	337.0	15.9
60°-70°	276.4	13.1
70°-80°	186.3	8.8
80°-90°	60.7	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°	547.0	25.9
0°-40°	893.0	42.2
0°-60°	1591.6	75.3
0°-90°	2115.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2115.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	702	704	708	709	710	67
15°	669	673	679	685	686	189
25°	609	613	629	638	642	280
35°	526	534	553	572	580	329
45°	438	441	467	495	507	335
55°	336	342	374	410	426	298
65°	227	237	277	318	337	226
75°	122	135	179	220	236	128
85°	28	40	60	70	69	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	709.6	709.6	709.6	709.6	709.6
2.5°	705.6	707.6	710.6	711.6	711.6
5°	702.5	704.5	707.6	708.6	709.6
7.5°	697.5	699.5	703.5	705.6	706.6
10°	690.4	692.4	697.5	700.5	701.5
12.5°	681.3	683.3	689.4	693.4	694.4
15°	669.1	673.2	679.2	685.3	686.3
17.5°	661.0	660.0	668.1	675.2	677.2
20°	641.8	646.8	656.0	664.0	666.1
22.5°	625.6	629.6	641.8	650.9	654.9
25°	609.4	613.4	628.6	637.7	641.8
27.5°	589.1	595.2	609.4	622.5	627.6
30°	568.9	575.0	591.2	606.3	612.4
32.5°	548.6	555.7	572.9	589.1	596.2
35°	526.4	533.5	552.7	571.9	580.0
37.5°	503.1	512.2	532.5	553.7	562.8
40°	479.8	488.9	510.2	534.5	544.6
42.5°	460.6	464.6	488.9	515.2	525.4
45°	438.3	441.3	466.7	495.0	507.1
47.5°	405.9	417.1	444.4	475.8	487.9
50°	380.6	392.8	421.1	454.5	467.7
52.5°	359.4	367.5	398.8	432.2	447.4
55°	336.1	342.1	374.5	410.0	426.2
57.5°	307.7	318.9	351.3	387.7	403.9
60°	276.3	290.5	326.0	365.4	381.6
62.5°	256.1	264.2	302.7	342.1	360.4
65°	226.7	236.9	277.4	317.9	337.1
67.5°	202.5	212.6	254.1	294.6	313.8
70°	176.1	186.3	229.8	270.3	289.5
72.5°	145.8	159.9	205.5	246.0	266.2
75°	121.5	134.6	179.2	219.7	235.9
77.5°	94.1	111.3	152.9	186.3	198.4
80°	69.8	87.1	124.5	148.8	159.9
82.5°	47.6	64.8	93.1	111.3	117.4
85°	28.3	40.5	59.7	69.8	68.8
87.5°	13.2	17.2	24.3	24.3	23.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)