

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: P312806

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-CP187-W2A-U-3500K**

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: P312806
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: 22FCZ2-29HE-UNV-L83050-CP187-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3500K 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: 2402.0 lumens
Efficiency: N/A
Efficacy: 107.2 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

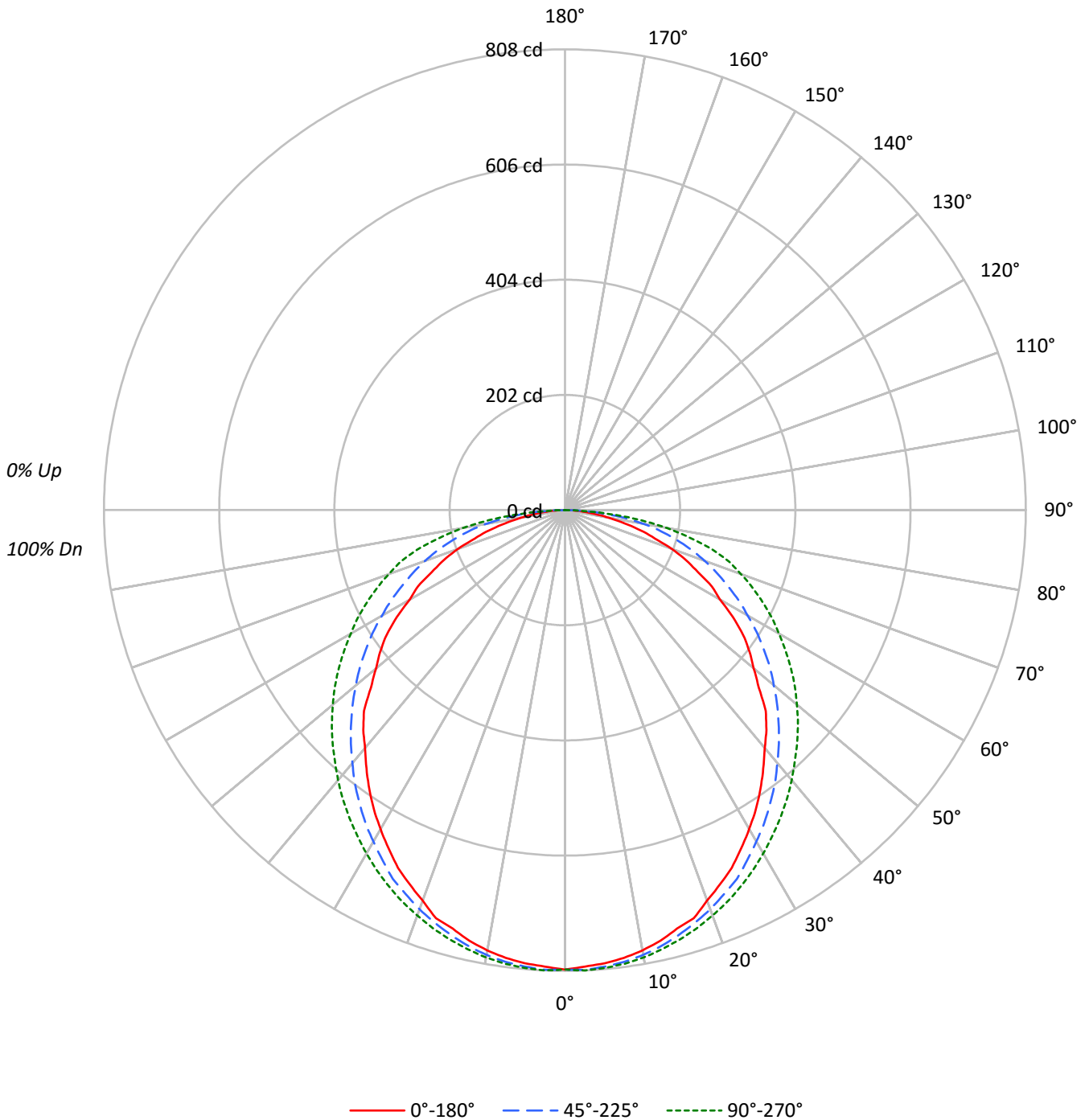
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2169	2169	2169
5°	2155	2171	2177
10°	2142	2164	2177
15°	2117	2149	2171
20°	2087	2133	2166
25°	2055	2120	2164
30°	2008	2086	2161
35°	1964	2062	2164
40°	1914	2035	2173
45°	1894	2017	2192
50°	1810	2002	2223
55°	1791	1996	2271
60°	1689	1992	2333
65°	1640	2006	2437
70°	1574	2054	2587
75°	1435	2116	2785
80°	1229	2191	2814
85°	994	2093	2414



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.3	3.2
10°-20°	217.5	9.1
20°-30°	327.4	13.6
30°-40°	393.0	16.4
40°-50°	410.7	17.1
50°-60°	382.8	15.9
60°-70°	313.9	13.1
70°-80°	211.5	8.8
80°-90°	68.9	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°	621.2	25.9
0°-40°	1014.2	42.2
0°-60°	1807.6	75.3
0°-90°	2402.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2402.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	806	806	806	806	806	
5°	798	800	804	805	806	76
15°	760	764	771	778	779	215
25°	692	697	714	724	729	318
35°	598	606	628	650	659	374
45°	498	501	530	562	576	380
55°	382	389	425	466	484	338
65°	258	269	315	361	383	256
75°	138	153	204	250	268	145
85°	32	46	68	79	78	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	805.9	805.9	805.9	805.9	805.9
2.5°	801.3	803.6	807.0	808.2	808.2
5°	797.8	800.1	803.6	804.7	805.9
7.5°	792.1	794.4	799.0	801.3	802.4
10°	784.0	786.3	792.1	795.5	796.7
12.5°	773.7	776.0	782.9	787.5	788.6
15°	759.9	764.5	771.4	778.3	779.4
17.5°	750.7	749.6	758.8	766.8	769.1
20°	728.9	734.6	745.0	754.2	756.5
22.5°	710.5	715.1	728.9	739.2	743.8
25°	692.1	696.7	713.9	724.3	728.9
27.5°	669.1	676.0	692.1	707.0	712.8
30°	646.1	653.0	671.4	688.6	695.5
32.5°	623.1	631.1	650.7	669.1	677.1
35°	597.8	605.9	627.7	649.5	658.7
37.5°	571.4	581.7	604.7	628.8	639.2
40°	544.9	555.3	579.4	607.0	618.5
42.5°	523.1	527.7	555.3	585.2	596.7
45°	497.8	501.2	530.0	562.2	576.0
47.5°	461.0	473.6	504.7	540.3	554.1
50°	432.3	446.1	478.2	516.2	531.1
52.5°	408.1	417.3	453.0	490.9	508.1
55°	381.7	388.6	425.4	465.6	484.0
57.5°	349.5	362.1	398.9	440.3	458.7
60°	313.8	329.9	370.2	415.0	433.4
62.5°	290.9	300.1	343.7	388.6	409.3
65°	257.5	269.0	315.0	361.0	382.8
67.5°	229.9	241.4	288.6	334.5	356.4
70°	200.0	211.5	261.0	307.0	328.8
72.5°	165.5	181.6	233.4	279.4	302.4
75°	138.0	152.9	203.5	249.5	267.9
77.5°	106.9	126.5	173.6	211.5	225.3
80°	79.3	98.9	141.4	169.0	181.6
82.5°	54.0	73.6	105.8	126.5	133.4
85°	32.2	46.0	67.8	79.3	78.2
87.5°	14.9	19.5	27.6	27.6	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)