

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: P312955

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-CP187-W2A-U-3000K**

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: P312955
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: 22FCZ2-29HE-UNV-L83050-S-CP187-W2A-U-3000K
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: 2394.0 lumens
Efficiency: N/A
Efficacy: 106.9 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

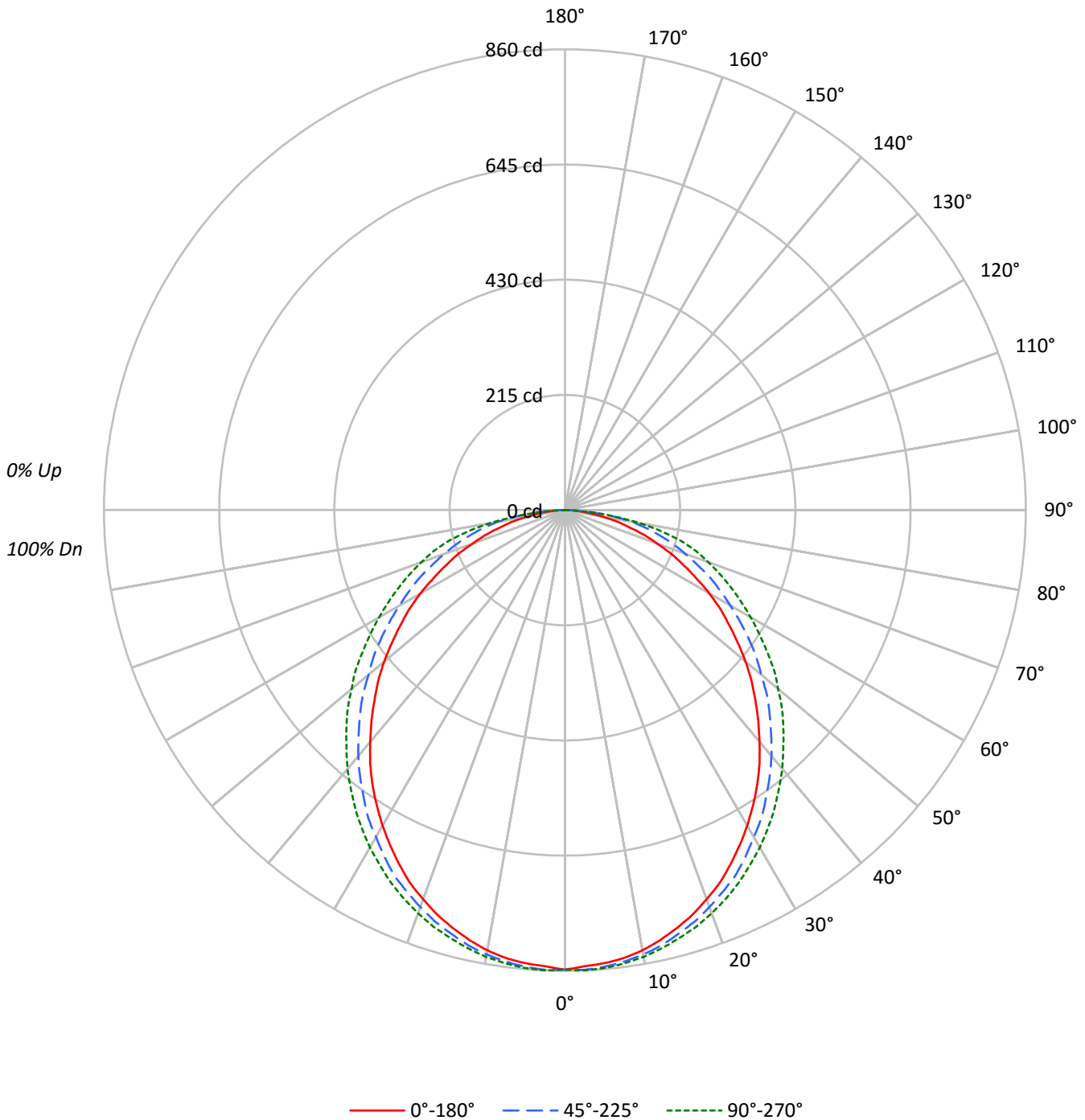
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2308	2308	2308
5°	2293	2311	2317
10°	2280	2301	2314
15°	2250	2281	2303
20°	2214	2258	2294
25°	2169	2235	2279
30°	2114	2190	2260
35°	2055	2150	2238
40°	1985	2107	2217
45°	1913	2057	2194
50°	1842	2002	2174
55°	1756	1965	2159
60°	1677	1918	2152
65°	1564	1906	2176
70°	1441	1890	2241
75°	1301	1916	2357
80°	1125	1973	2216
85°	932	1655	1655



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.1	3.4
10°-20°	230.9	9.6
20°-30°	345.4	14.4
30°-40°	409.1	17.1
40°-50°	416.9	17.4
50°-60°	373.7	15.6
60°-70°	292.6	12.2
70°-80°	188.6	7.9
80°-90°	55.7	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°	657.4	27.5
0°-40°	1066.5	44.5
0°-60°	1857.1	77.6
0°-90°	2394.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2394.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	858	858	858	858	858	
5°	849	851	856	857	858	81
15°	808	812	819	826	827	228
25°	730	737	753	763	767	336
35°	626	633	655	675	681	391
45°	503	514	541	568	576	388
55°	374	386	419	448	460	335
65°	246	260	299	328	342	244
75°	125	144	184	216	227	134
85°	30	41	54	54	54	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	857.8	857.8	857.8	857.8	857.8
2.5°	852.3	854.5	859.0	860.1	860.1
5°	848.9	851.1	855.6	856.7	857.8
7.5°	843.3	844.4	850.0	852.3	853.4
10°	834.4	836.6	842.2	845.6	846.7
12.5°	822.1	825.5	832.2	836.6	837.7
15°	807.6	812.0	818.8	825.5	826.6
17.5°	791.9	796.4	805.3	813.2	815.4
20°	773.0	778.5	788.6	797.5	800.9
22.5°	754.0	758.4	770.7	781.9	785.2
25°	730.5	737.2	752.8	762.9	767.4
27.5°	705.9	713.8	729.4	742.8	747.3
30°	680.2	688.1	704.8	721.6	727.2
32.5°	653.4	662.4	682.5	699.2	704.8
35°	625.5	633.3	654.6	674.7	681.4
37.5°	596.5	603.2	627.7	649.0	655.7
40°	565.2	574.1	599.8	624.4	631.1
42.5°	533.9	544.0	569.7	596.5	603.2
45°	502.6	513.8	540.6	568.5	576.4
47.5°	472.5	481.4	511.6	538.4	549.6
50°	440.1	449.0	478.1	508.2	519.4
52.5°	406.6	418.9	450.1	479.2	492.6
55°	374.2	386.5	418.9	447.9	460.2
57.5°	344.0	354.1	387.6	417.8	430.0
60°	311.6	320.6	356.3	388.7	399.9
62.5°	277.0	290.4	327.3	357.4	370.8
65°	245.7	260.3	299.4	328.4	341.8
67.5°	216.7	230.1	268.1	299.4	313.9
70°	183.2	201.1	240.2	271.4	284.8
72.5°	156.4	172.0	212.2	243.5	258.0
75°	125.1	144.1	184.3	215.6	226.7
77.5°	99.4	118.4	156.4	181.0	186.5
80°	72.6	91.6	127.3	139.6	143.0
82.5°	49.1	67.0	91.6	94.9	96.1
85°	30.2	41.3	53.6	53.6	53.6
87.5°	14.5	16.8	19.0	17.9	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)