

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: P312956

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-S-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: P312956
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-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH 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: 2533.0 lumens
Efficiency: N/A
Efficacy: 113.1 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

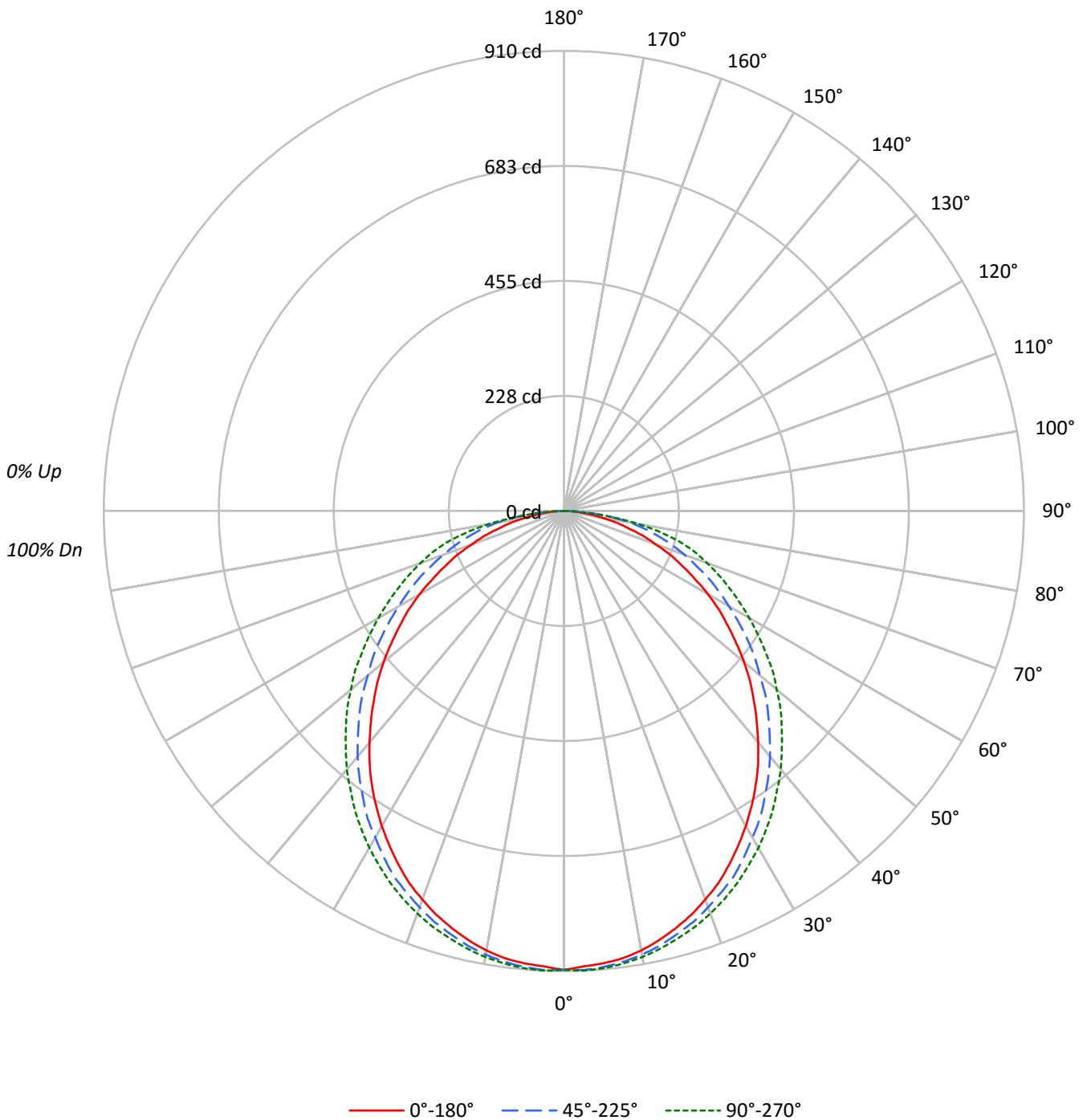
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2443	2443	2443
5°	2426	2445	2452
10°	2412	2435	2448
15°	2381	2413	2437
20°	2342	2389	2427
25°	2295	2365	2411
30°	2236	2317	2391
35°	2174	2275	2368
40°	2101	2229	2346
45°	2024	2177	2321
50°	1949	2117	2301
55°	1857	2079	2284
60°	1774	2029	2277
65°	1656	2017	2302
70°	1525	1999	2371
75°	1377	2027	2494
80°	1190	2087	2345
85°	985	1751	1751



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.8	3.4
10°-20°	244.3	9.6
20°-30°	365.5	14.4
30°-40°	432.8	17.1
40°-50°	441.1	17.4
50°-60°	395.4	15.6
60°-70°	309.5	12.2
70°-80°	199.6	7.9
80°-90°	59.0	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°	695.6	27.5
0°-40°	1128.4	44.5
0°-60°	1964.9	77.6
0°-90°	2533.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2533.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	908	908	908	908	908	
5°	898	901	905	906	908	85
15°	854	859	866	873	875	241
25°	773	780	797	807	812	356
35°	662	670	693	714	721	414
45°	532	544	572	602	610	411
55°	396	409	443	474	487	355
65°	260	275	317	348	362	258
75°	132	152	195	228	240	142
85°	32	44	57	57	57	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	907.7	907.7	907.7	907.7	907.7
2.5°	901.7	904.1	908.8	910.0	910.0
5°	898.2	900.6	905.3	906.5	907.7
7.5°	892.3	893.5	899.4	901.7	902.9
10°	882.8	885.2	891.1	894.7	895.8
12.5°	869.8	873.4	880.5	885.2	886.4
15°	854.5	859.2	866.3	873.4	874.6
17.5°	837.9	842.7	852.1	860.4	862.7
20°	817.8	823.7	834.4	843.8	847.4
22.5°	797.7	802.5	815.5	827.3	830.8
25°	772.9	780.0	796.6	807.2	811.9
27.5°	746.9	755.2	771.7	785.9	790.7
30°	719.7	728.0	745.7	763.5	769.4
32.5°	691.4	700.8	722.1	739.8	745.7
35°	661.8	670.1	692.6	713.8	720.9
37.5°	631.1	638.2	664.2	686.6	693.7
40°	598.0	607.5	634.6	660.6	667.7
42.5°	564.9	575.6	602.7	631.1	638.2
45°	531.8	543.6	572.0	601.6	609.8
47.5°	499.9	509.4	541.3	569.6	581.5
50°	465.6	475.1	505.8	537.7	549.6
52.5°	430.2	443.2	476.3	507.0	521.2
55°	395.9	408.9	443.2	473.9	486.9
57.5°	364.0	374.6	410.1	442.0	455.0
60°	329.7	339.2	377.0	411.3	423.1
62.5°	293.1	307.3	346.3	378.2	392.4
65°	260.0	275.4	316.7	347.5	361.6
67.5°	229.3	243.5	283.6	316.7	332.1
70°	193.8	212.7	254.1	287.2	301.4
72.5°	165.5	182.0	224.5	257.6	273.0
75°	132.4	152.5	195.0	228.1	239.9
77.5°	105.2	125.3	165.5	191.5	197.4
80°	76.8	96.9	134.7	147.7	151.3
82.5°	52.0	70.9	96.9	100.5	101.6
85°	31.9	43.7	56.7	56.7	56.7
87.5°	15.4	17.7	20.1	18.9	18.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)