

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: P312790

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-CA08-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: P312790
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-CA08-W2A-U-3000K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 2426.0 lumens
Efficiency: N/A
Efficacy: 108.3 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

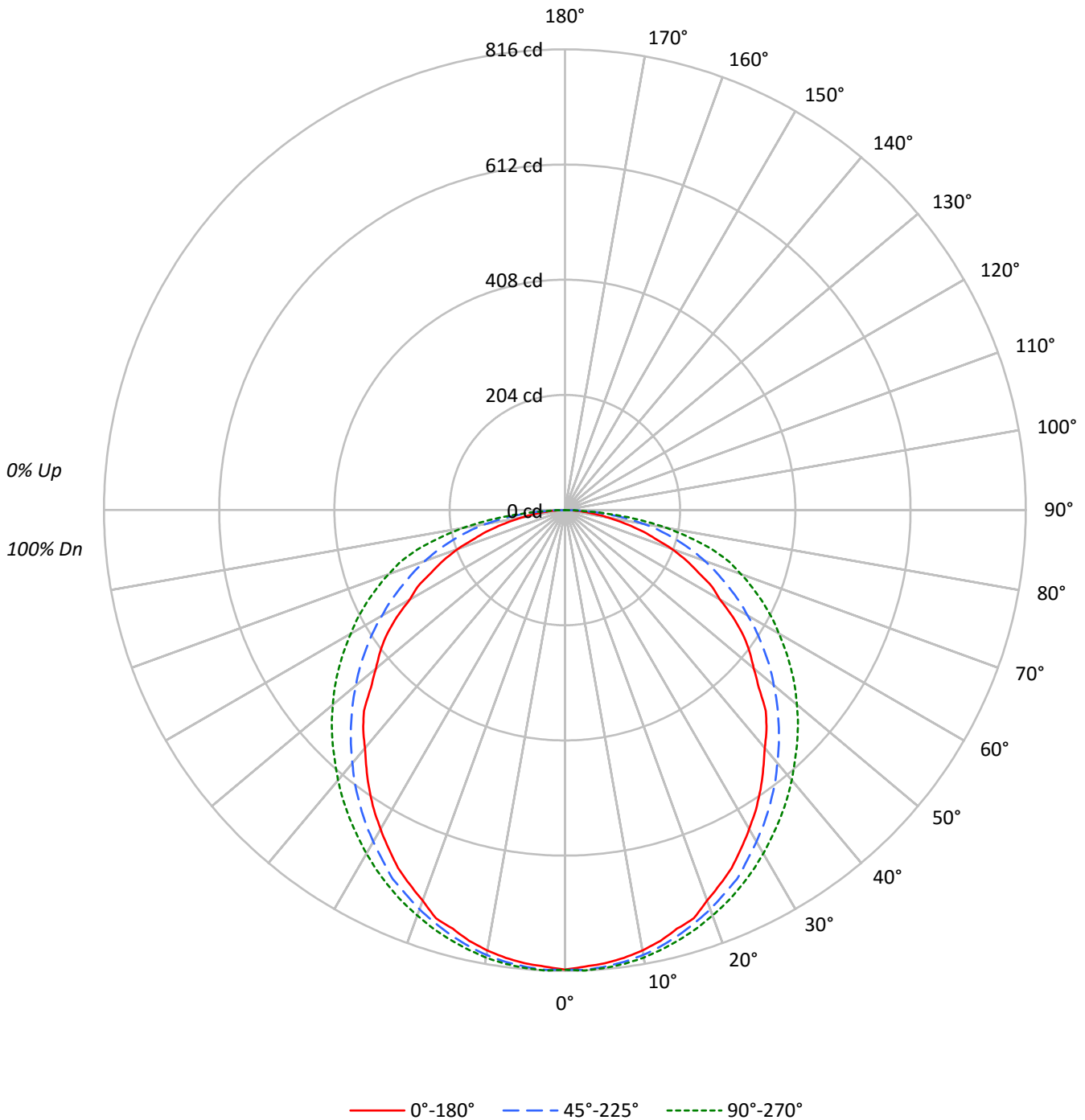
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2190	2190	2190
5°	2177	2192	2199
10°	2164	2186	2199
15°	2138	2170	2193
20°	2108	2155	2188
25°	2075	2141	2186
30°	2027	2107	2183
35°	1984	2083	2186
40°	1933	2056	2194
45°	1913	2037	2214
50°	1828	2022	2246
55°	1809	2016	2293
60°	1706	2012	2356
65°	1656	2025	2462
70°	1589	2074	2613
75°	1448	2137	2812
80°	1241	2213	2844
85°	1003	2115	2439



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.0	3.2
10°-20°	219.7	9.1
20°-30°	330.7	13.6
30°-40°	396.9	16.4
40°-50°	414.8	17.1
50°-60°	386.6	15.9
60°-70°	317.1	13.1
70°-80°	213.6	8.8
80°-90°	69.6	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°	627.4	25.9
0°-40°	1024.3	42.2
0°-60°	1825.7	75.3
0°-90°	2426.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2426.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	814	814	814	814	814	
5°	806	808	812	813	814	76
15°	768	772	779	786	787	217
25°	699	704	721	732	736	321
35°	604	612	634	656	665	377
45°	503	506	535	568	582	384
55°	386	392	430	470	489	342
65°	260	272	318	365	387	259
75°	139	154	206	252	270	146
85°	32	46	68	80	79	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	813.9	813.9	813.9	813.9	813.9
2.5°	809.3	811.6	815.1	816.3	816.3
5°	805.8	808.1	811.6	812.8	813.9
7.5°	800.0	802.3	807.0	809.3	810.5
10°	791.9	794.2	800.0	803.5	804.7
12.5°	781.4	783.8	790.7	795.4	796.5
15°	767.5	772.1	779.1	786.1	787.2
17.5°	758.2	757.0	766.3	774.5	776.8
20°	736.1	742.0	752.4	761.7	764.0
22.5°	717.6	722.2	736.1	746.6	751.2
25°	699.0	703.6	721.1	731.5	736.1
27.5°	675.8	682.7	699.0	714.1	719.9
30°	652.5	659.5	678.1	695.5	702.5
32.5°	629.3	637.5	657.2	675.8	683.9
35°	603.8	611.9	634.0	656.0	665.3
37.5°	577.1	587.5	610.7	635.1	645.6
40°	550.4	560.8	585.2	613.1	624.7
42.5°	528.3	533.0	560.8	591.0	602.6
45°	502.8	506.2	535.3	567.8	581.7
47.5°	465.6	478.4	509.7	545.7	559.7
50°	436.6	450.5	483.0	521.3	536.4
52.5°	412.2	421.5	457.5	495.8	513.2
55°	385.5	392.5	429.6	470.3	488.8
57.5°	353.0	365.8	402.9	444.7	463.3
60°	317.0	333.2	373.9	419.2	437.7
62.5°	293.8	303.1	347.2	392.5	413.4
65°	260.1	271.7	318.1	364.6	386.7
67.5°	232.2	243.8	291.4	337.9	359.9
70°	202.0	213.6	263.6	310.0	332.1
72.5°	167.2	183.5	235.7	282.2	305.4
75°	139.3	154.4	205.5	252.0	270.5
77.5°	108.0	127.7	175.3	213.6	227.6
80°	80.1	99.9	142.8	170.7	183.5
82.5°	54.6	74.3	106.8	127.7	134.7
85°	32.5	46.4	68.5	80.1	79.0
87.5°	15.1	19.7	27.9	27.9	26.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)