

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: P311931

Luminaire Tested: **14FCZ2-35-UNV-L83050-HRP-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: P311931
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-18)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 14FCZ2-35-UNV-L83050-HRP-CP187-W2A-U-3500K
Description: 1'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 2391.0 lumens
Efficiency: N/A
Efficacy: 81.1 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.29 / 1.39
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

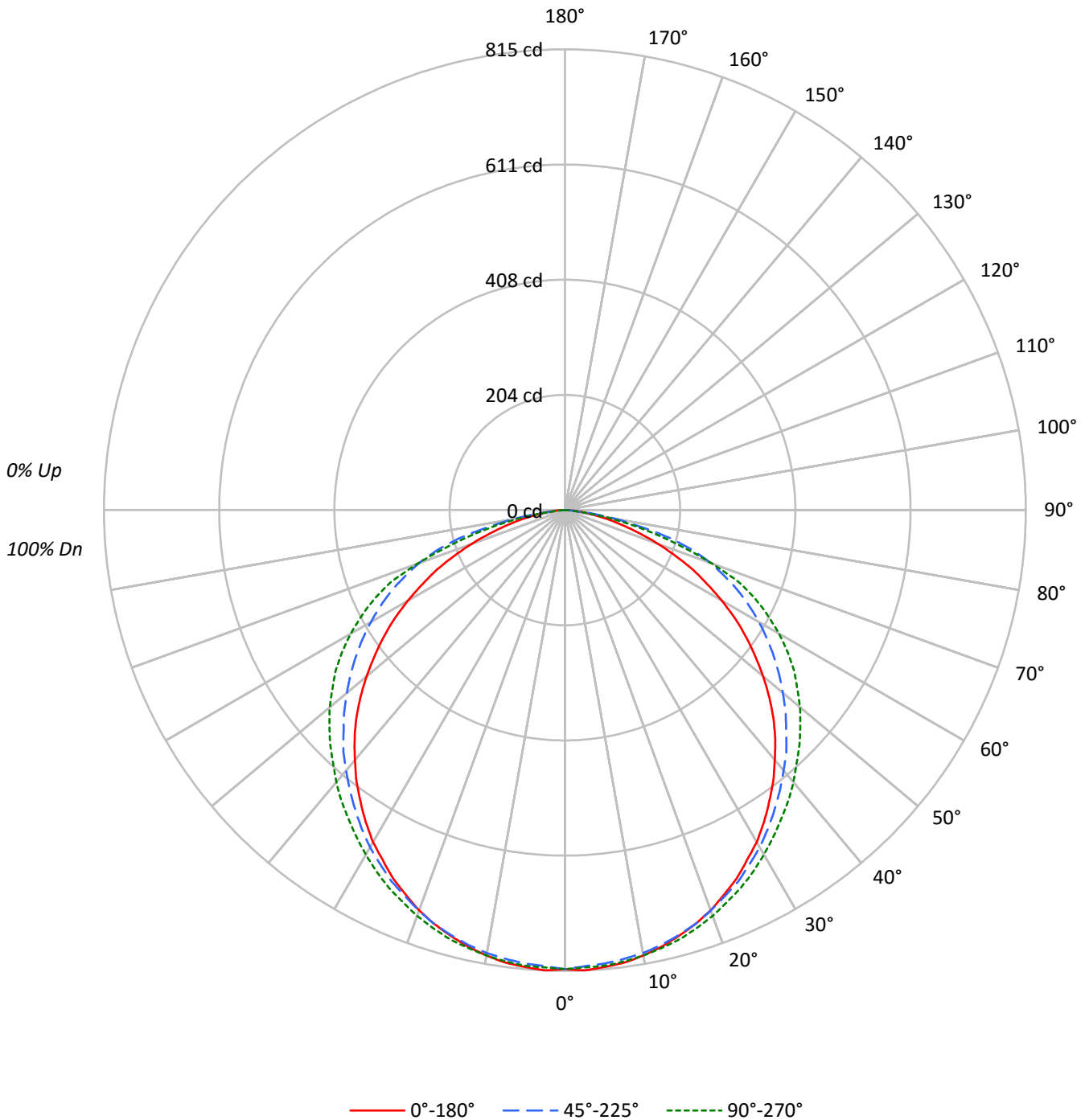
Input Watts (W): 29.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73	78	75	71	69
3	90	79	71	64	87	77	70	64	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	69	56	47	40	68	55	46	40	53	45	40	51	45	39	50	44	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29
9	56	42	34	28	54	42	34	28	41	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	26	37	30	25	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2185	2185	2185
5°	2191	2175	2185
10°	2186	2174	2186
15°	2172	2168	2189
20°	2157	2160	2188
25°	2134	2152	2188
30°	2107	2140	2187
35°	2070	2124	2191
40°	2028	2113	2208
45°	1986	2106	2232
50°	1917	2106	2272
55°	1834	2116	2321
60°	1724	2132	2351
65°	1589	2154	2365
70°	1384	2159	2177
75°	1142	2009	1759
80°	897	1444	1176
85°	698	556	278



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.9	3.2
10°-20°	220.6	9.2
20°-30°	335.0	14.0
30°-40°	405.9	17.0
40°-50°	427.7	17.9
50°-60°	399.3	16.7
60°-70°	319.1	13.3
70°-80°	175.6	7.3
80°-90°	31.0	1.3
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°	632.4	26.5
0°-40°	1038.3	43.4
0°-60°	1865.3	78.0
0°-90°	2391.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2391.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	812	812	812	812	812	
5°	811	809	805	810	809	77
15°	780	780	778	786	786	220
25°	719	720	725	735	737	331
35°	630	636	647	663	667	394
45°	522	532	553	578	586	401
55°	391	410	451	483	495	349
65°	250	281	338	366	371	246
75°	110	157	193	174	169	118
85°	23	29	18	11	9	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	812.0	812.0	812.0	812.0	812.0
2.5°	815.0	812.7	807.5	812.0	809.7
5°	811.2	809.0	805.2	810.5	809.0
7.5°	807.5	804.5	800.7	806.7	805.2
10°	800.0	797.7	795.5	800.7	800.0
12.5°	790.9	790.2	787.9	794.0	793.2
15°	779.7	779.7	778.2	785.7	785.7
17.5°	767.6	766.9	767.6	775.9	775.2
20°	753.4	753.4	754.1	763.9	763.9
22.5°	736.1	736.8	739.1	751.1	750.3
25°	718.8	720.3	724.8	735.3	736.8
27.5°	697.7	701.5	706.7	719.5	721.0
30°	678.2	680.4	688.7	700.7	703.7
32.5°	654.9	659.4	668.4	681.9	685.7
35°	630.0	636.1	646.6	663.1	666.9
37.5°	605.2	610.5	624.8	642.1	648.8
40°	577.4	586.4	601.5	621.0	628.5
42.5°	550.4	559.4	579.7	600.0	606.7
45°	521.8	531.6	553.4	578.2	586.4
47.5°	490.2	501.5	529.3	555.6	564.6
50°	457.9	472.2	503.0	532.3	542.8
52.5°	424.0	442.1	477.4	508.2	518.0
55°	391.0	410.5	451.1	482.7	494.7
57.5°	357.1	378.2	424.0	460.1	466.9
60°	320.3	345.9	396.2	427.8	436.8
62.5°	284.2	313.5	367.7	397.7	405.2
65°	249.6	281.2	338.3	366.1	371.4
67.5°	212.0	249.6	306.0	331.6	333.1
70°	175.9	219.5	274.4	286.5	276.7
72.5°	140.6	187.2	237.6	227.8	219.5
75°	109.8	157.1	193.2	173.7	169.2
77.5°	81.2	128.6	138.3	127.8	119.5
80°	57.9	101.5	93.2	79.7	75.9
82.5°	39.8	63.9	51.1	39.8	34.6
85°	22.6	28.6	18.0	11.3	9.0
87.5°	9.8	6.8	3.8	3.0	3.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)