

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: P312156

Luminaire Tested: **14FCZ2-20-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: P312156
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-49)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 14FCZ2-20-UNV-L83050-CP187-W2A-U-3500K
Description: 1'X4' 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

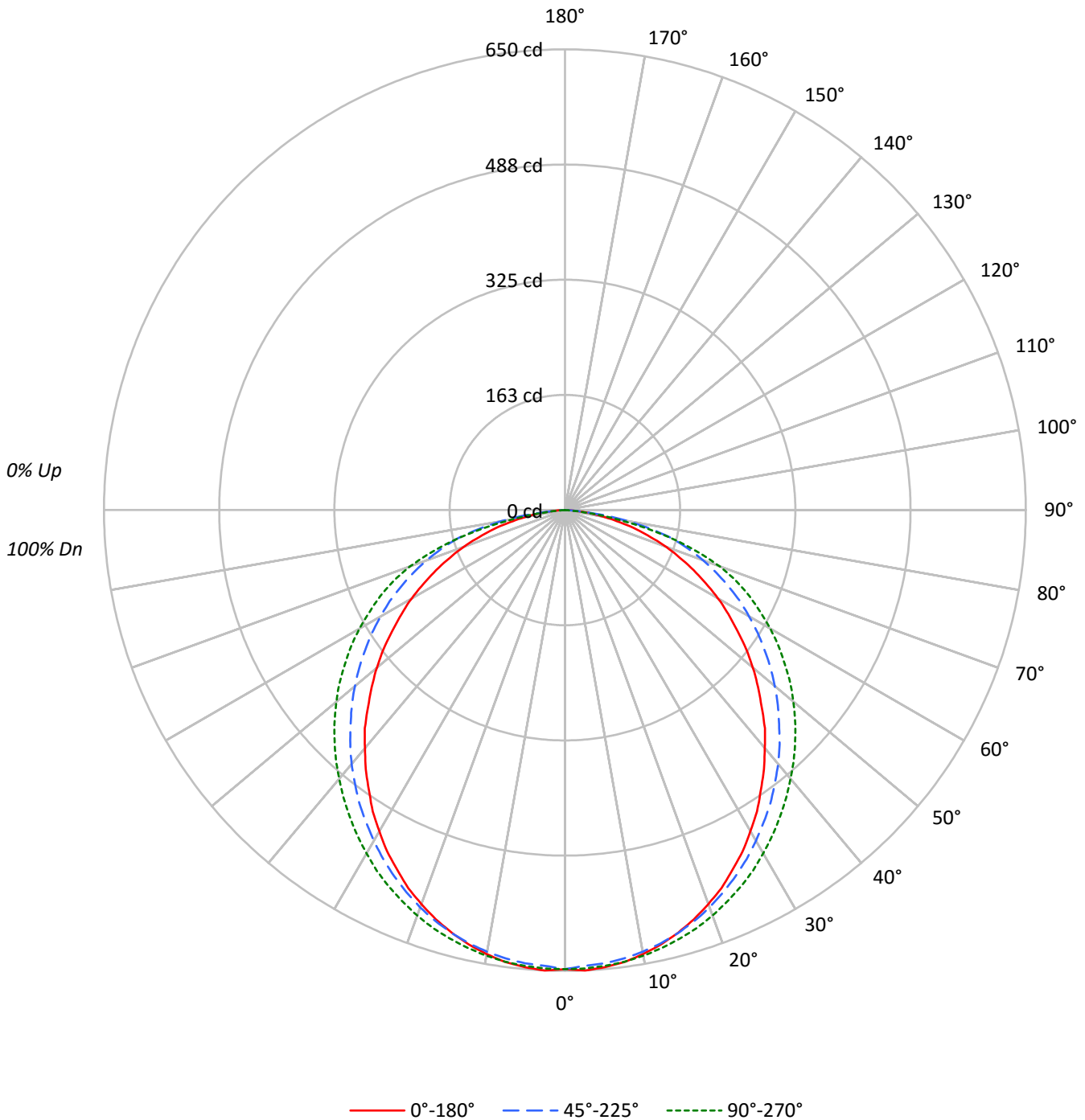
Lumens per Lamp: N/A
Luminaire Lumens: 1880.0 lumens
Efficiency: N/A
Efficacy: 113.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 16.5
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	109	104	99	95	106	101	97	94	97	94	91	93	90	88	90	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	79	68	60	53	66	58	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	34	32
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	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	39	31	26	37	30	26	37	30	25	36	30	25	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1743	1743	1743
5°	1748	1734	1744
10°	1738	1729	1744
15°	1719	1720	1744
20°	1694	1708	1743
25°	1662	1692	1741
30°	1626	1674	1738
35°	1582	1659	1736
40°	1540	1643	1739
45°	1493	1626	1748
50°	1450	1618	1760
55°	1394	1612	1776
60°	1344	1615	1800
65°	1276	1621	1829
70°	1197	1633	1827
75°	1085	1648	1652
80°	890	1423	1176
85°	661	673	272



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.3	3.3
10°-20°	175.1	9.3
20°-30°	263.7	14.0
30°-40°	316.5	16.8
40°-50°	329.9	17.5
50°-60°	305.4	16.2
60°-70°	246.7	13.1
70°-80°	150.4	8.0
80°-90°	31.1	1.7
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°	500.1	26.6
0°-40°	816.6	43.4
0°-60°	1451.8	77.2
0°-90°	1880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	648	648	648	648	648	
5°	647	646	642	646	646	61
15°	617	618	618	626	626	174
25°	560	563	570	584	586	258
35°	482	489	505	524	529	302
45°	392	404	427	451	459	303
55°	297	313	344	371	378	266
65°	200	220	254	280	287	198
75°	104	127	158	161	159	110
85°	21	32	22	12	9	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	647.7	647.7	647.7	647.7	647.7
2.5°	650.2	648.1	643.5	648.1	647.2
5°	647.2	645.6	641.8	646.4	645.6
7.5°	643.1	641.4	638.0	643.5	642.6
10°	635.9	635.1	632.6	638.9	638.4
12.5°	627.5	627.1	625.9	633.0	632.6
15°	617.1	617.5	617.5	625.9	625.9
17.5°	605.3	606.2	607.8	617.1	618.3
20°	591.5	593.2	596.5	607.0	608.7
22.5°	577.2	578.5	583.5	596.1	597.8
25°	559.6	563.0	569.7	583.9	586.5
27.5°	542.9	545.8	555.0	569.7	573.9
30°	523.2	527.8	538.7	554.6	559.2
32.5°	504.3	509.3	521.9	540.4	544.5
35°	481.7	489.2	505.1	523.6	528.6
37.5°	461.1	468.2	486.3	506.4	512.3
40°	438.5	447.3	467.8	489.2	495.1
42.5°	417.5	425.9	448.1	469.9	477.9
45°	392.4	404.1	427.2	451.1	459.4
47.5°	369.3	381.1	407.5	433.0	440.6
50°	346.3	358.8	386.5	412.9	420.5
52.5°	322.4	335.8	365.5	392.0	400.8
55°	297.2	312.7	343.7	370.6	378.5
57.5°	273.3	289.2	322.4	349.6	357.6
60°	249.8	266.2	300.1	326.1	334.5
62.5°	223.9	243.1	278.3	303.9	310.2
65°	200.4	220.1	254.5	280.0	287.2
67.5°	175.6	197.0	231.4	254.9	261.6
70°	152.2	174.4	207.5	229.3	232.2
72.5°	127.0	149.7	183.2	197.0	197.0
75°	104.4	127.4	158.5	161.0	158.9
77.5°	79.6	105.2	125.3	120.3	115.3
80°	57.4	82.6	91.8	82.6	75.9
82.5°	38.6	59.9	55.3	44.0	39.0
85°	21.4	31.9	21.8	12.2	8.8
87.5°	8.0	7.1	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)