

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: P314131

Luminaire Tested: **24FCZ2-70HE-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: P314131
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-70HE-UNV-L83050-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 6032.0 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

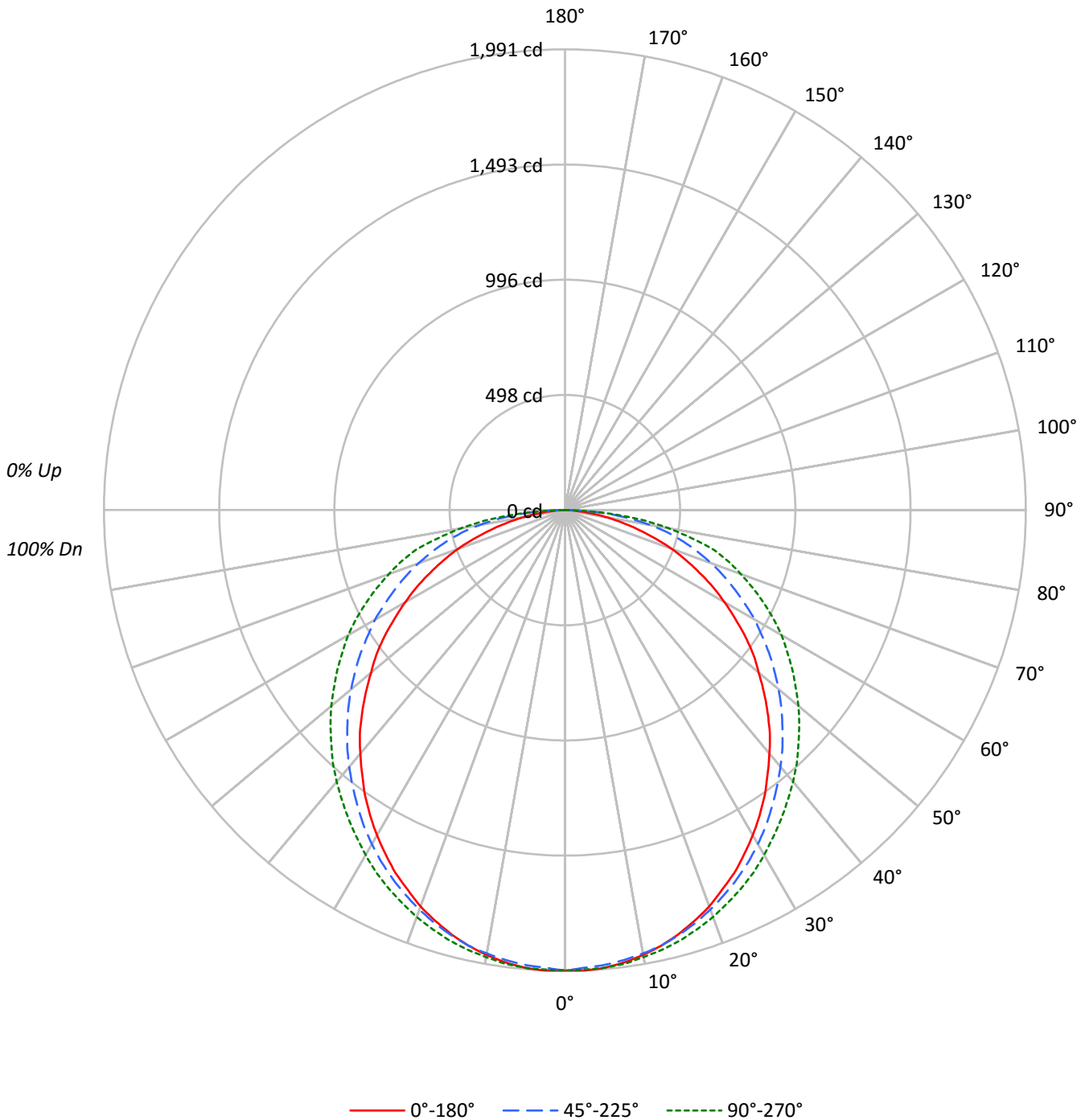
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2677	2677	2677
5°	2681	2665	2681
10°	2666	2658	2680
15°	2643	2648	2682
20°	2611	2631	2679
25°	2570	2612	2677
30°	2522	2590	2674
35°	2472	2564	2676
40°	2415	2545	2693
45°	2357	2529	2715
50°	2287	2522	2757
55°	2230	2526	2812
60°	2143	2547	2908
65°	2045	2574	3014
70°	1937	2653	3181
75°	1727	2767	3475
80°	1473	2930	3551
85°	1050	2904	3398



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.3	3.1
10°-20°	538.3	8.9
20°-30°	813.1	13.5
30°-40°	979.9	16.2
40°-50°	1028.8	17.1
50°-60°	962.5	16.0
60°-70°	794.8	13.2
70°-80°	541.6	9.0
80°-90°	184.7	3.1
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°	1539.7	25.5
0°-40°	2519.6	41.8
0°-60°	4510.8	74.8
0°-90°	6032.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6032.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1989	1989	1989	1989	1989	
5°	1985	1983	1973	1985	1985	188
15°	1897	1899	1901	1921	1925	535
25°	1731	1739	1759	1793	1803	797
35°	1505	1521	1561	1613	1629	940
45°	1239	1265	1329	1401	1427	955
55°	951	989	1077	1165	1199	848
65°	642	696	808	911	947	637
75°	332	408	532	632	668	354
85°	68	134	188	212	220	85
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1989.3	1989.3	1989.3	1989.3	1989.3
2.5°	1991.3	1989.3	1979.3	1989.3	1987.3
5°	1985.3	1983.3	1973.3	1985.3	1985.3
7.5°	1971.3	1971.3	1961.3	1975.3	1977.3
10°	1951.3	1951.3	1945.3	1961.3	1961.3
12.5°	1927.3	1927.3	1927.3	1943.3	1945.3
15°	1897.2	1899.2	1901.2	1921.3	1925.3
17.5°	1861.2	1865.2	1871.2	1895.2	1899.2
20°	1823.2	1827.2	1837.2	1865.2	1871.2
22.5°	1775.2	1785.2	1799.2	1831.2	1837.2
25°	1731.1	1739.1	1759.2	1793.2	1803.2
27.5°	1677.1	1689.1	1715.1	1751.1	1765.2
30°	1623.1	1635.1	1667.1	1709.1	1721.1
32.5°	1565.0	1583.0	1617.1	1661.1	1675.1
35°	1505.0	1521.0	1561.0	1613.1	1629.1
37.5°	1438.9	1461.0	1505.0	1561.0	1581.0
40°	1374.9	1398.9	1448.9	1509.0	1533.0
42.5°	1310.9	1334.9	1390.9	1459.0	1483.0
45°	1238.8	1264.8	1328.9	1400.9	1426.9
47.5°	1166.8	1198.8	1268.8	1344.9	1372.9
50°	1092.7	1128.7	1204.8	1284.8	1316.9
52.5°	1026.7	1060.7	1140.7	1226.8	1256.8
55°	950.6	988.6	1076.7	1164.8	1198.8
57.5°	872.6	914.6	1008.7	1104.7	1138.7
60°	796.5	842.6	946.6	1042.7	1080.7
62.5°	722.5	768.5	876.6	976.6	1014.7
65°	642.4	696.5	808.5	910.6	946.6
67.5°	566.4	624.4	742.5	842.6	878.6
70°	492.3	548.4	674.4	772.5	808.5
72.5°	412.3	476.3	602.4	704.5	742.5
75°	332.2	408.3	532.3	632.4	668.4
77.5°	258.2	336.2	460.3	542.4	560.4
80°	190.1	270.2	378.2	436.3	458.3
82.5°	122.1	202.1	288.2	330.2	348.2
85°	68.0	134.1	188.1	212.1	220.1
87.5°	28.0	58.0	76.0	86.1	86.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)