

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: P314116

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CA08-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: P314116
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-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 6447.0 lumens
Efficiency: N/A
Efficacy: 111.7 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

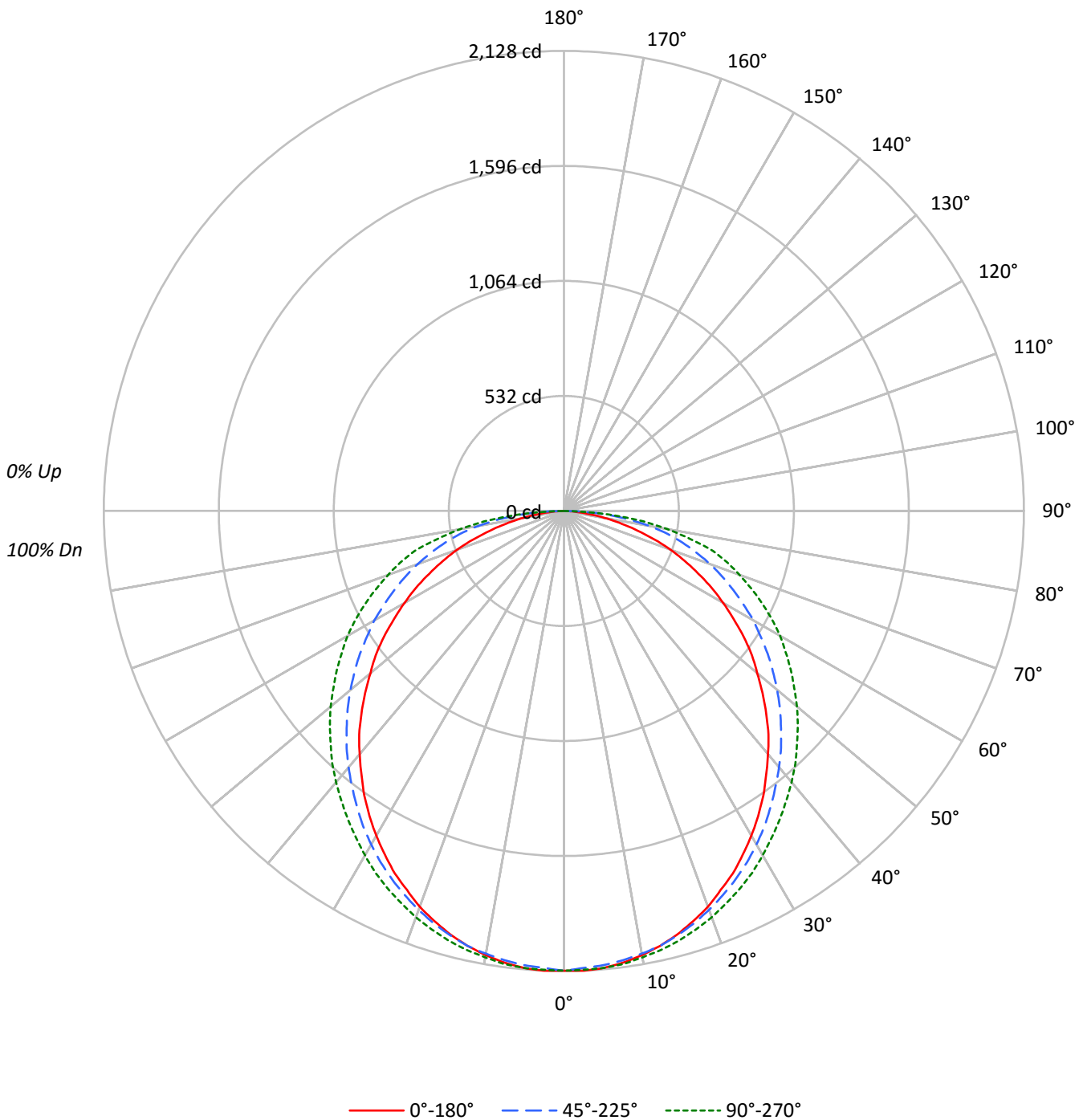
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2861	2861	2861
5°	2866	2849	2866
10°	2849	2841	2864
15°	2825	2830	2866
20°	2790	2812	2864
25°	2747	2791	2861
30°	2695	2768	2858
35°	2642	2740	2860
40°	2581	2720	2878
45°	2519	2703	2902
50°	2445	2695	2946
55°	2383	2700	3006
60°	2291	2722	3108
65°	2186	2751	3221
70°	2070	2836	3400
75°	1846	2958	3714
80°	1574	3133	3795
85°	1122	3105	3633



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.2	3.1
10°-20°	575.4	8.9
20°-30°	869.0	13.5
30°-40°	1047.4	16.2
40°-50°	1099.5	17.1
50°-60°	1028.7	16.0
60°-70°	849.5	13.2
70°-80°	578.9	9.0
80°-90°	197.4	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°	1645.6	25.5
0°-40°	2692.9	41.8
0°-60°	4821.2	74.8
0°-90°	6447.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6447.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2126	2126	2126	2126	2126	
5°	2122	2120	2109	2122	2122	201
15°	2028	2030	2032	2053	2058	572
25°	1850	1859	1880	1916	1927	851
35°	1608	1626	1668	1724	1741	1005
45°	1324	1352	1420	1497	1525	1021
55°	1016	1057	1151	1245	1281	907
65°	687	744	864	973	1012	681
75°	355	436	569	676	714	379
85°	73	143	201	227	235	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2126.2	2126.2	2126.2	2126.2	2126.2
2.5°	2128.3	2126.2	2115.5	2126.2	2124.0
5°	2121.9	2119.7	2109.1	2121.9	2121.9
7.5°	2106.9	2106.9	2096.2	2111.2	2113.3
10°	2085.5	2085.5	2079.1	2096.2	2096.2
12.5°	2059.9	2059.9	2059.9	2077.0	2079.1
15°	2027.8	2029.9	2032.0	2053.4	2057.7
17.5°	1989.3	1993.5	2000.0	2025.6	2029.9
20°	1948.6	1952.9	1963.6	1993.5	2000.0
22.5°	1897.3	1908.0	1923.0	1957.2	1963.6
25°	1850.2	1858.8	1880.2	1916.5	1927.2
27.5°	1792.5	1805.3	1833.1	1871.6	1886.6
30°	1734.7	1747.6	1781.8	1826.7	1839.5
32.5°	1672.7	1691.9	1728.3	1775.4	1790.3
35°	1608.5	1625.6	1668.4	1724.0	1741.1
37.5°	1537.9	1561.5	1608.5	1668.4	1689.8
40°	1469.5	1495.2	1548.6	1612.8	1638.5
42.5°	1401.0	1426.7	1486.6	1559.3	1585.0
45°	1324.0	1351.8	1420.3	1497.3	1525.1
47.5°	1247.0	1281.3	1356.1	1437.4	1467.4
50°	1167.9	1206.4	1287.7	1373.2	1407.5
52.5°	1097.3	1133.7	1219.2	1311.2	1343.3
55°	1016.0	1056.7	1150.8	1244.9	1281.3
57.5°	932.6	977.5	1078.1	1180.7	1217.1
60°	851.3	900.5	1011.7	1114.4	1155.1
62.5°	772.2	821.4	936.9	1043.8	1084.5
65°	686.6	744.4	864.2	973.2	1011.7
67.5°	605.3	667.4	793.6	900.5	939.0
70°	526.2	586.1	720.8	825.7	864.2
72.5°	440.6	509.1	643.8	752.9	793.6
75°	355.1	436.4	569.0	675.9	714.4
77.5°	275.9	359.4	492.0	579.7	598.9
80°	203.2	288.8	404.3	466.3	489.8
82.5°	130.5	216.0	308.0	352.9	372.2
85°	72.7	143.3	201.1	226.7	235.3
87.5°	29.9	62.0	81.3	92.0	92.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)