

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: P314491

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-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: P314491
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 6774.0 lumens
Efficiency: N/A
Efficacy: 117.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

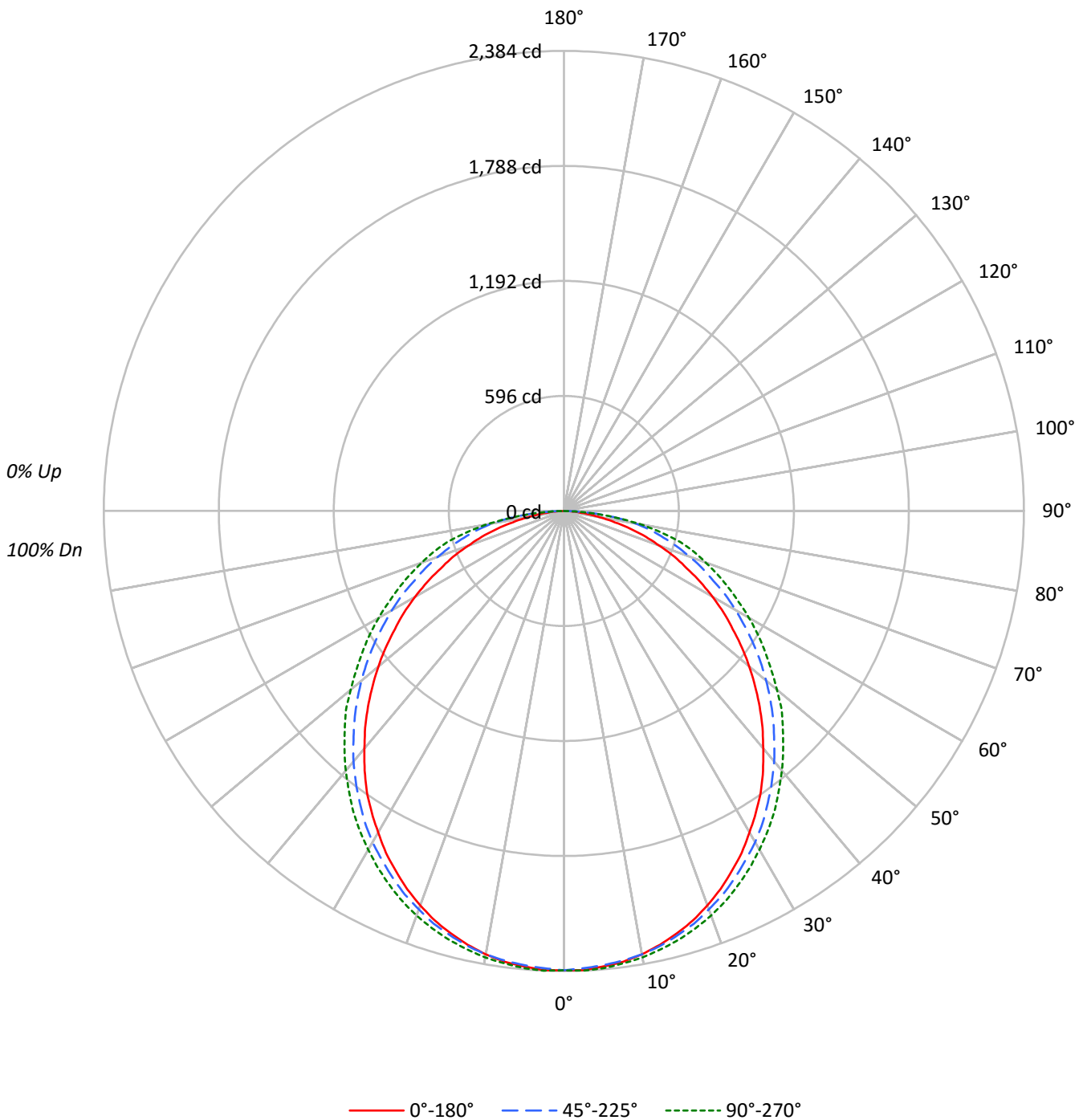
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	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	80	68	60	54	66	59	53	63	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	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3202	3202	3202
5°	3200	3191	3211
10°	3187	3187	3210
15°	3156	3171	3204
20°	3115	3146	3195
25°	3057	3115	3175
30°	2989	3079	3149
35°	2923	3029	3124
40°	2823	2978	3088
45°	2731	2919	3054
50°	2626	2865	3018
55°	2509	2811	2988
60°	2391	2768	2982
65°	2240	2720	3000
70°	2074	2734	3081
75°	1857	2785	3255
80°	1501	2951	3185
85°	1130	2590	2524



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.3	3.3
10°-20°	643.7	9.5
20°-30°	967.7	14.3
30°-40°	1152.7	17.0
40°-50°	1179.7	17.4
50°-60°	1062.1	15.7
60°-70°	834.1	12.3
70°-80°	541.3	8.0
80°-90°	167.4	2.5
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°	1836.7	27.1
0°-40°	2989.4	44.1
0°-60°	5231.2	77.2
0°-90°	6774.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6774.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2380	2380	2380	2380	2380	
5°	2369	2373	2362	2375	2378	225
15°	2266	2272	2276	2296	2300	639
25°	2059	2076	2098	2132	2139	949
35°	1779	1801	1844	1889	1902	1110
45°	1435	1470	1534	1592	1605	1106
55°	1069	1117	1198	1261	1274	959
65°	704	757	854	925	942	700
75°	357	426	536	609	626	378
85°	73	136	168	164	164	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2379.8	2379.8	2379.8	2379.8	2379.8
2.5°	2381.9	2381.9	2371.1	2381.9	2384.1
5°	2369.0	2373.3	2362.5	2375.4	2377.6
7.5°	2356.1	2356.1	2349.6	2362.5	2364.7
10°	2332.4	2334.6	2332.4	2347.5	2349.6
12.5°	2302.3	2306.6	2308.7	2323.8	2326.0
15°	2265.7	2272.2	2276.5	2295.8	2300.1
17.5°	2224.8	2231.3	2242.0	2263.6	2267.9
20°	2175.3	2183.9	2196.9	2224.8	2231.3
22.5°	2121.5	2130.2	2151.7	2177.5	2188.3
25°	2059.2	2076.4	2097.9	2132.3	2138.8
27.5°	1996.8	2011.8	2039.8	2076.4	2085.0
30°	1923.6	1947.3	1981.7	2018.3	2026.9
32.5°	1852.6	1876.3	1917.1	1955.9	1966.6
35°	1779.4	1801.0	1844.0	1889.2	1902.1
37.5°	1695.5	1723.5	1770.8	1816.0	1828.9
40°	1607.3	1641.7	1695.5	1742.9	1757.9
42.5°	1523.4	1560.0	1613.8	1665.4	1682.6
45°	1435.2	1469.6	1534.1	1592.2	1605.1
47.5°	1344.8	1383.5	1452.4	1510.5	1532.0
50°	1254.4	1295.3	1368.5	1428.7	1441.6
52.5°	1164.1	1207.1	1284.5	1349.1	1355.6
55°	1069.4	1116.7	1198.5	1260.9	1273.8
57.5°	983.3	1024.2	1112.4	1177.0	1192.0
60°	888.6	933.8	1028.5	1088.7	1108.1
62.5°	798.3	845.6	944.6	1004.8	1022.0
65°	703.6	757.4	854.2	925.2	942.4
67.5°	621.8	673.5	776.8	845.6	862.8
70°	527.2	585.3	695.0	766.0	783.2
72.5°	445.4	505.6	615.4	684.2	710.1
75°	357.2	426.0	535.8	608.9	626.1
77.5°	271.1	350.7	462.6	518.6	518.6
80°	193.7	277.6	380.8	406.7	411.0
82.5°	126.9	208.7	281.9	279.7	279.7
85°	73.2	135.6	167.8	163.5	163.5
87.5°	28.0	55.9	60.2	60.2	58.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)