

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: P314502

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-S-CP125-W2A-U-4000K**

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: P314502
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-CP125-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 4000K 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: 6949.0 lumens
Efficiency: N/A
Efficacy: 117.8 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

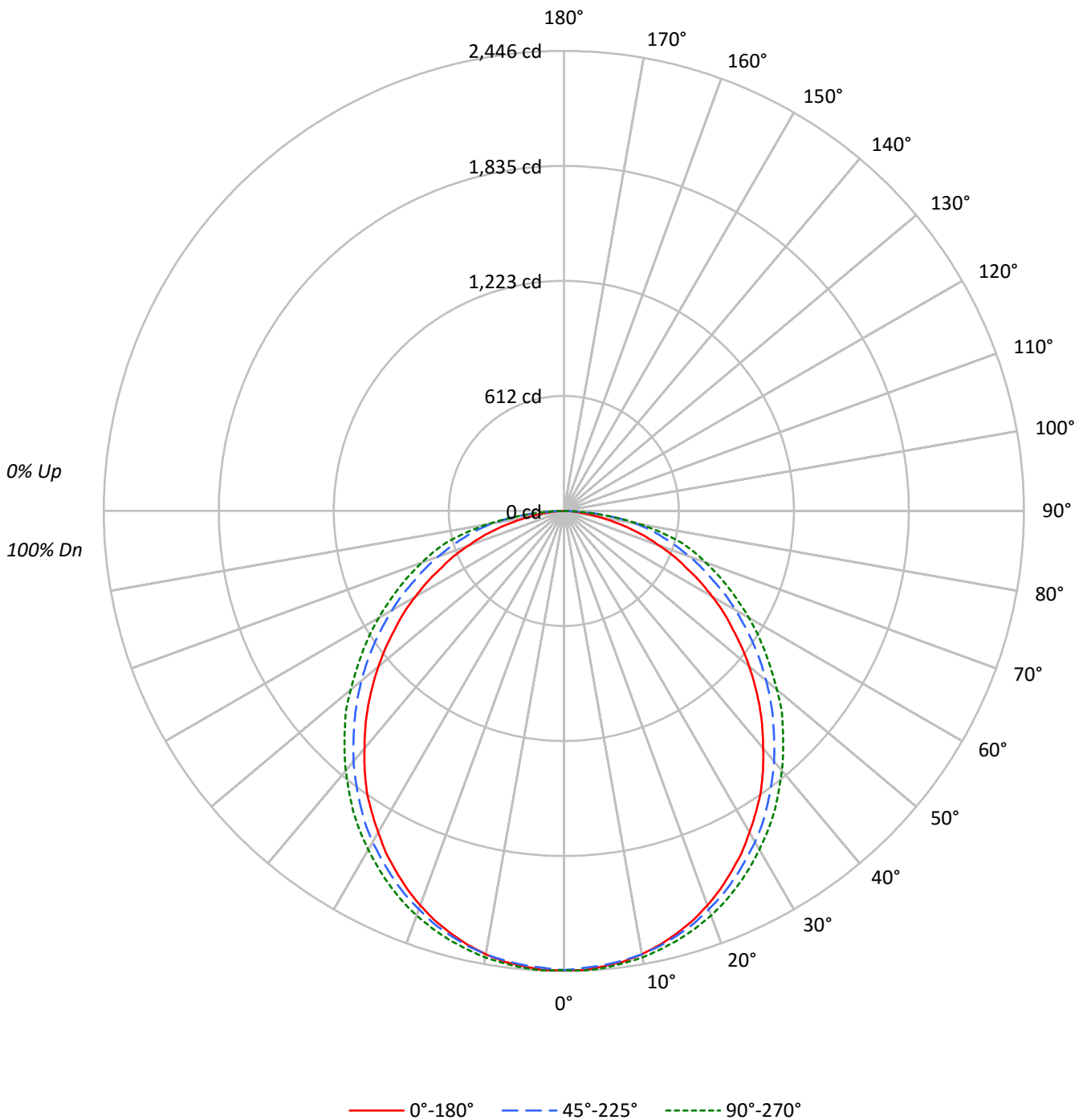
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3285	3285	3285
5°	3282	3273	3294
10°	3269	3269	3293
15°	3238	3253	3287
20°	3195	3227	3277
25°	3136	3195	3257
30°	3066	3158	3230
35°	2998	3107	3205
40°	2896	3055	3167
45°	2801	2995	3133
50°	2694	2938	3096
55°	2573	2884	3065
60°	2453	2839	3059
65°	2298	2790	3078
70°	2127	2805	3161
75°	1905	2857	3339
80°	1540	3027	3267
85°	1158	2658	2590



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.1	3.3
10°-20°	660.4	9.5
20°-30°	992.7	14.3
30°-40°	1182.4	17.0
40°-50°	1210.2	17.4
50°-60°	1089.5	15.7
60°-70°	855.6	12.3
70°-80°	555.3	8.0
80°-90°	171.8	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°	1884.2	27.1
0°-40°	3066.6	44.1
0°-60°	5366.3	77.2
0°-90°	6949.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6949.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2441	2441	2441	2441	2441	
5°	2430	2435	2424	2437	2439	231
15°	2324	2331	2335	2355	2360	655
25°	2112	2130	2152	2187	2194	973
35°	1825	1848	1892	1938	1951	1139
45°	1472	1508	1574	1633	1647	1135
55°	1097	1146	1229	1294	1307	983
65°	722	777	876	949	967	719
75°	366	437	550	625	642	388
85°	75	139	172	168	168	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2441.2	2441.2	2441.2	2441.2	2441.2
2.5°	2443.4	2443.4	2432.4	2443.4	2445.6
5°	2430.2	2434.6	2423.6	2436.8	2439.0
7.5°	2416.9	2416.9	2410.3	2423.6	2425.8
10°	2392.7	2394.9	2392.7	2408.1	2410.3
12.5°	2361.8	2366.2	2368.4	2383.8	2386.0
15°	2324.2	2330.9	2335.3	2355.1	2359.6
17.5°	2282.3	2288.9	2300.0	2322.0	2326.5
20°	2231.5	2240.4	2253.6	2282.3	2288.9
22.5°	2176.4	2185.2	2207.3	2233.7	2244.8
25°	2112.3	2130.0	2152.1	2187.4	2194.0
27.5°	2048.3	2063.8	2092.5	2130.0	2138.8
30°	1973.3	1997.6	2032.9	2070.4	2079.2
32.5°	1900.5	1924.7	1966.7	2006.4	2017.4
35°	1825.4	1847.5	1891.6	1938.0	1951.2
37.5°	1739.3	1768.0	1816.6	1862.9	1876.2
40°	1648.8	1684.1	1739.3	1787.9	1803.3
42.5°	1562.7	1600.3	1655.4	1708.4	1726.1
45°	1472.2	1507.6	1573.8	1633.4	1646.6
47.5°	1379.5	1419.3	1489.9	1549.5	1571.6
50°	1286.8	1328.8	1403.8	1465.6	1478.9
52.5°	1194.1	1238.3	1317.7	1384.0	1390.6
55°	1097.0	1145.6	1229.4	1293.5	1306.7
57.5°	1008.7	1050.7	1141.2	1207.4	1222.8
60°	911.6	958.0	1055.1	1116.9	1136.7
62.5°	818.9	867.5	969.0	1030.8	1048.4
65°	721.8	777.0	876.3	949.1	966.8
67.5°	637.9	690.9	796.8	867.5	885.1
70°	540.8	600.4	712.9	785.8	803.4
72.5°	456.9	518.7	631.3	701.9	728.4
75°	366.4	437.0	549.6	624.7	642.3
77.5°	278.1	359.8	474.6	531.9	531.9
80°	198.7	284.7	390.7	417.2	421.6
82.5°	130.2	214.1	289.2	286.9	286.9
85°	75.0	139.1	172.2	167.8	167.8
87.5°	28.7	57.4	61.8	61.8	59.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)