

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: P314123

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CA125-W2A-U-4500K**

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: P314123
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-CA125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 4500K 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: 6809.0 lumens
Efficiency: N/A
Efficacy: 112.5 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

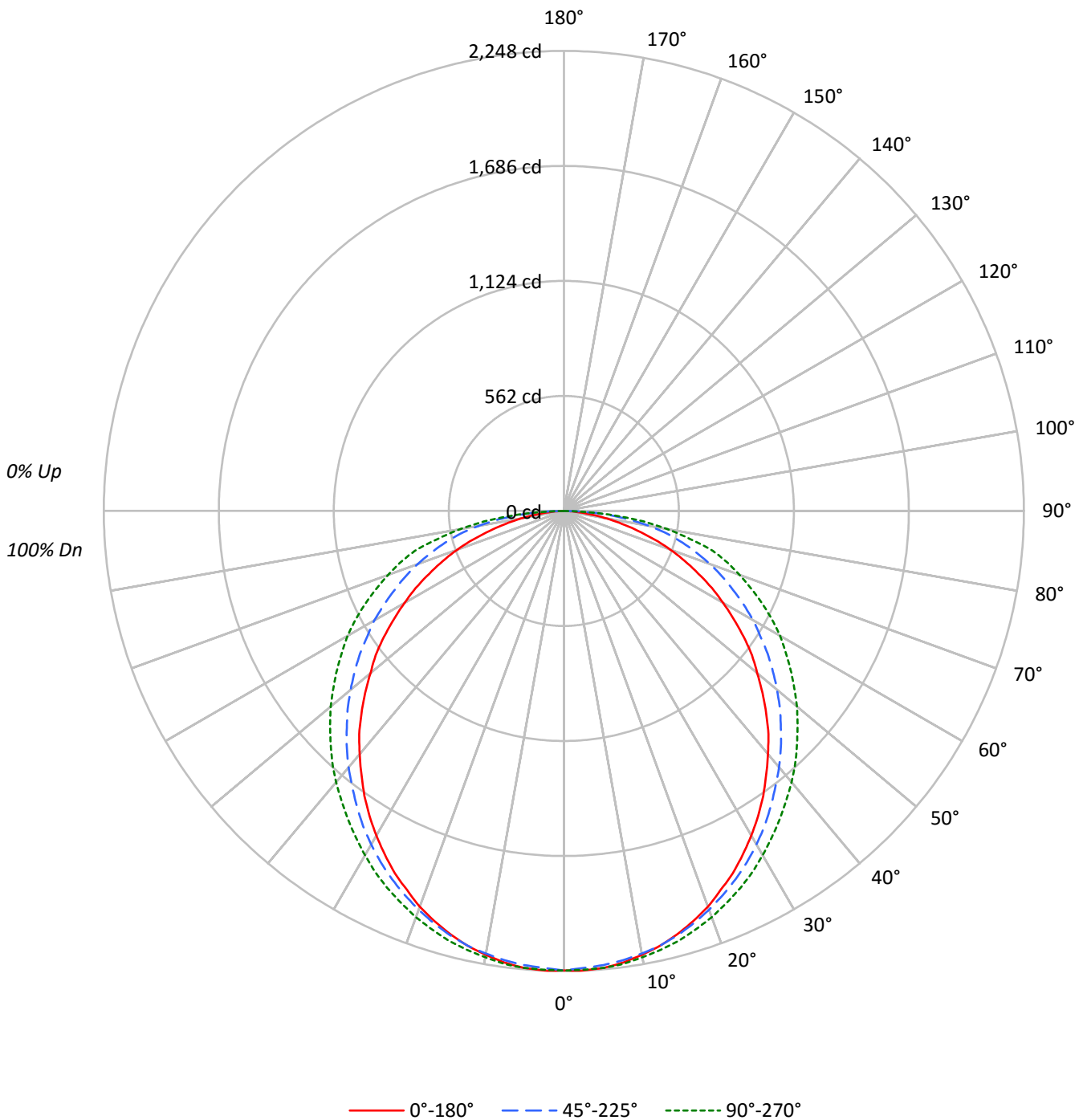
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	3021	3021	3021
5°	3027	3009	3027
10°	3009	3000	3025
15°	2983	2989	3027
20°	2947	2969	3024
25°	2901	2948	3022
30°	2846	2924	3018
35°	2790	2894	3020
40°	2726	2873	3039
45°	2661	2854	3065
50°	2582	2847	3112
55°	2517	2851	3174
60°	2419	2876	3283
65°	2309	2906	3402
70°	2186	2995	3591
75°	1949	3124	3922
80°	1663	3309	4008
85°	1186	3279	3836



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.5	3.1
10°-20°	607.7	8.9
20°-30°	917.8	13.5
30°-40°	1106.2	16.2
40°-50°	1161.3	17.1
50°-60°	1086.4	16.0
60°-70°	897.2	13.2
70°-80°	611.4	9.0
80°-90°	208.5	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°	1738.0	25.5
0°-40°	2844.2	41.8
0°-60°	5091.9	74.8
0°-90°	6809.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6809.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2246	2246	2246	2246	2246	
5°	2241	2239	2228	2241	2241	213
15°	2142	2144	2146	2169	2173	604
25°	1954	1963	1986	2024	2036	899
35°	1699	1717	1762	1821	1839	1062
45°	1398	1428	1500	1581	1611	1078
55°	1073	1116	1215	1315	1353	958
65°	725	786	913	1028	1069	719
75°	375	461	601	714	754	400
85°	77	151	212	240	248	96
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2245.5	2245.5	2245.5	2245.5	2245.5
2.5°	2247.8	2245.5	2234.3	2245.5	2243.3
5°	2241.0	2238.8	2227.5	2241.0	2241.0
7.5°	2225.2	2225.2	2213.9	2229.7	2232.0
10°	2202.6	2202.6	2195.8	2213.9	2213.9
12.5°	2175.5	2175.5	2175.5	2193.6	2195.8
15°	2141.6	2143.9	2146.1	2168.7	2173.3
17.5°	2101.0	2105.5	2112.3	2139.4	2143.9
20°	2058.0	2062.6	2073.9	2105.5	2112.3
22.5°	2003.8	2015.1	2030.9	2067.1	2073.9
25°	1954.1	1963.2	1985.8	2024.2	2035.5
27.5°	1893.1	1906.7	1936.1	1976.7	1992.5
30°	1832.1	1845.7	1881.8	1929.3	1942.8
32.5°	1766.6	1787.0	1825.4	1875.1	1890.9
35°	1698.8	1716.9	1762.1	1820.8	1838.9
37.5°	1624.3	1649.1	1698.8	1762.1	1784.7
40°	1552.0	1579.1	1635.6	1703.4	1730.5
42.5°	1479.7	1506.8	1570.1	1646.9	1674.0
45°	1398.4	1427.8	1500.0	1581.4	1610.7
47.5°	1317.1	1353.2	1432.3	1518.1	1549.7
50°	1233.5	1274.1	1360.0	1450.3	1486.5
52.5°	1158.9	1197.3	1287.7	1384.8	1418.7
55°	1073.1	1116.0	1215.4	1314.8	1353.2
57.5°	985.0	1032.4	1138.6	1247.0	1285.4
60°	899.1	951.1	1068.6	1177.0	1219.9
62.5°	815.5	867.5	989.5	1102.4	1145.4
65°	725.2	786.2	912.7	1027.9	1068.6
67.5°	639.3	704.8	838.1	951.1	991.7
70°	555.7	619.0	761.3	872.0	912.7
72.5°	465.4	537.7	680.0	795.2	838.1
75°	375.0	460.9	600.9	713.9	754.5
77.5°	291.4	379.5	519.6	612.2	632.5
80°	214.6	305.0	427.0	492.5	517.3
82.5°	137.8	228.2	325.3	372.8	393.1
85°	76.8	151.4	212.4	239.5	248.5
87.5°	31.6	65.5	85.8	97.1	97.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)