

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: P314121

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CA125-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: P314121
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-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 6424.0 lumens
Efficiency: N/A
Efficacy: 111.3 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

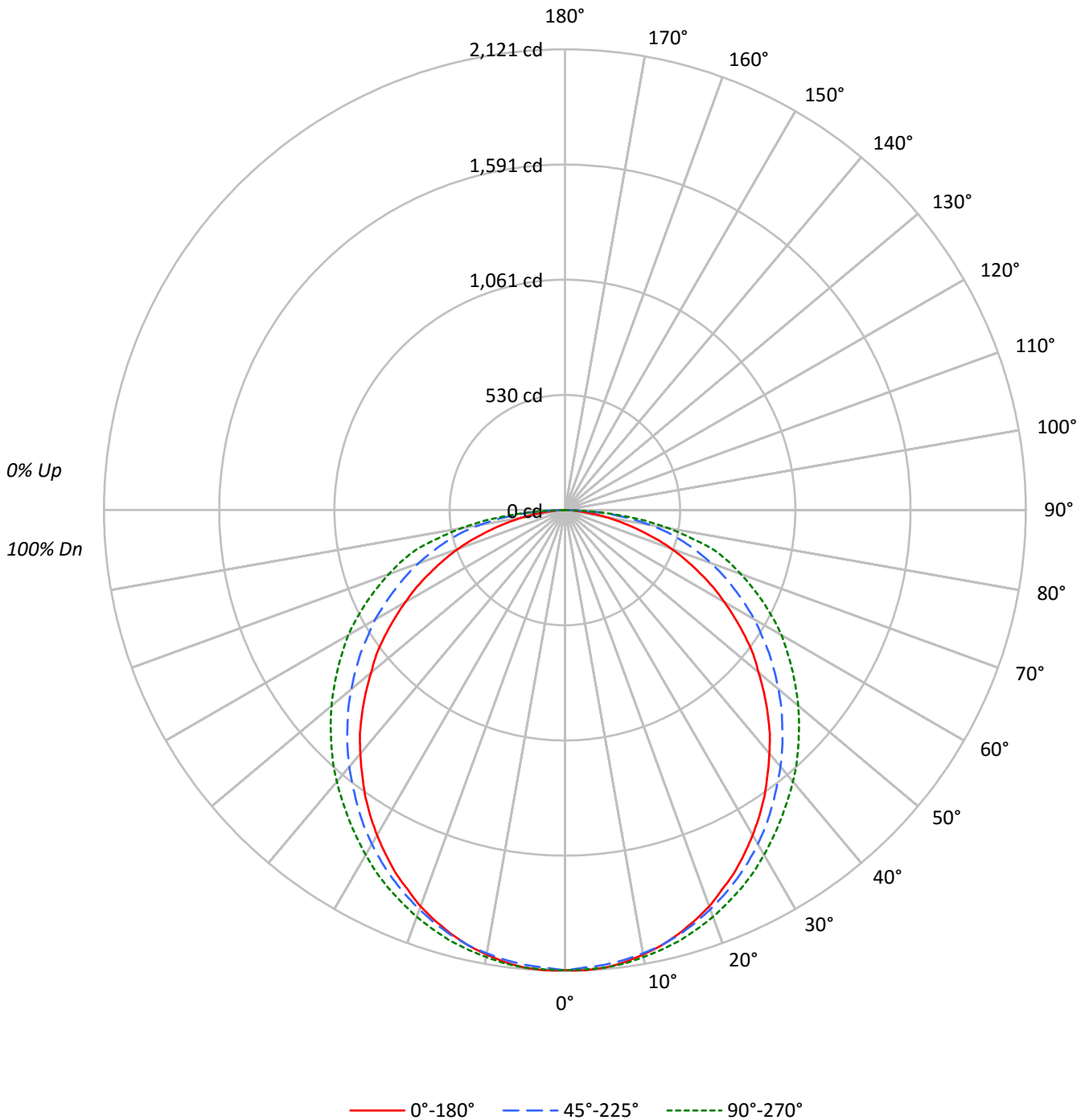
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2851	2851	2851
5°	2856	2838	2856
10°	2839	2830	2854
15°	2814	2820	2856
20°	2780	2802	2853
25°	2737	2781	2851
30°	2685	2758	2848
35°	2633	2731	2850
40°	2572	2710	2868
45°	2510	2693	2892
50°	2436	2686	2936
55°	2375	2690	2995
60°	2283	2713	3097
65°	2178	2741	3209
70°	2063	2826	3388
75°	1839	2947	3701
80°	1569	3121	3782
85°	1119	3092	3620



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.5	3.1
10°-20°	573.3	8.9
20°-30°	865.9	13.5
30°-40°	1043.6	16.2
40°-50°	1095.6	17.1
50°-60°	1025.0	16.0
60°-70°	846.5	13.2
70°-80°	576.8	9.0
80°-90°	196.7	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°	1639.7	25.5
0°-40°	2683.3	41.8
0°-60°	4804.0	74.8
0°-90°	6424.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6424.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2119	2119	2119	2119	2119	
5°	2114	2112	2102	2114	2114	201
15°	2020	2023	2025	2046	2050	570
25°	1844	1852	1874	1910	1920	848
35°	1603	1620	1662	1718	1735	1002
45°	1319	1347	1415	1492	1520	1017
55°	1012	1053	1147	1240	1277	904
65°	684	742	861	970	1008	679
75°	354	435	567	674	712	377
85°	72	143	200	226	234	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2118.6	2118.6	2118.6	2118.6	2118.6
2.5°	2120.7	2118.6	2107.9	2118.6	2116.4
5°	2114.3	2112.2	2101.5	2114.3	2114.3
7.5°	2099.4	2099.4	2088.7	2103.7	2105.8
10°	2078.1	2078.1	2071.7	2088.7	2088.7
12.5°	2052.5	2052.5	2052.5	2069.6	2071.7
15°	2020.5	2022.7	2024.8	2046.1	2050.4
17.5°	1982.2	1986.4	1992.8	2018.4	2022.7
20°	1941.7	1945.9	1956.6	1986.4	1992.8
22.5°	1890.5	1901.2	1916.1	1950.2	1956.6
25°	1843.6	1852.2	1873.5	1909.7	1920.4
27.5°	1786.1	1798.9	1826.6	1864.9	1879.9
30°	1728.5	1741.3	1775.4	1820.2	1833.0
32.5°	1666.7	1685.9	1722.1	1769.0	1784.0
35°	1602.8	1619.8	1662.5	1717.9	1734.9
37.5°	1532.5	1555.9	1602.8	1662.5	1683.8
40°	1464.2	1489.8	1543.1	1607.1	1632.6
42.5°	1396.0	1421.6	1481.3	1553.8	1579.3
45°	1319.3	1347.0	1415.2	1492.0	1519.7
47.5°	1242.6	1276.7	1351.3	1432.3	1462.1
50°	1163.7	1202.1	1283.1	1368.3	1402.4
52.5°	1093.4	1129.6	1214.9	1306.5	1338.5
55°	1012.4	1052.9	1146.7	1240.5	1276.7
57.5°	929.3	974.0	1074.2	1176.5	1212.7
60°	848.3	897.3	1008.1	1110.4	1150.9
62.5°	769.4	818.4	933.5	1040.1	1080.6
65°	684.2	741.7	861.1	969.8	1008.1
67.5°	603.2	665.0	790.7	897.3	935.7
70°	524.3	584.0	718.3	822.7	861.1
72.5°	439.1	507.3	641.5	750.2	790.7
75°	353.8	434.8	566.9	673.5	711.9
77.5°	274.9	358.1	490.2	577.6	596.8
80°	202.5	287.7	402.8	464.6	488.1
82.5°	130.0	215.3	306.9	351.7	370.9
85°	72.5	142.8	200.3	225.9	234.5
87.5°	29.8	61.8	81.0	91.6	91.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)