

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: P314119

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CA08-W2A-U-5000K**

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: P314119
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-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 6833.0 lumens
Efficiency: N/A
Efficacy: 112.9 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

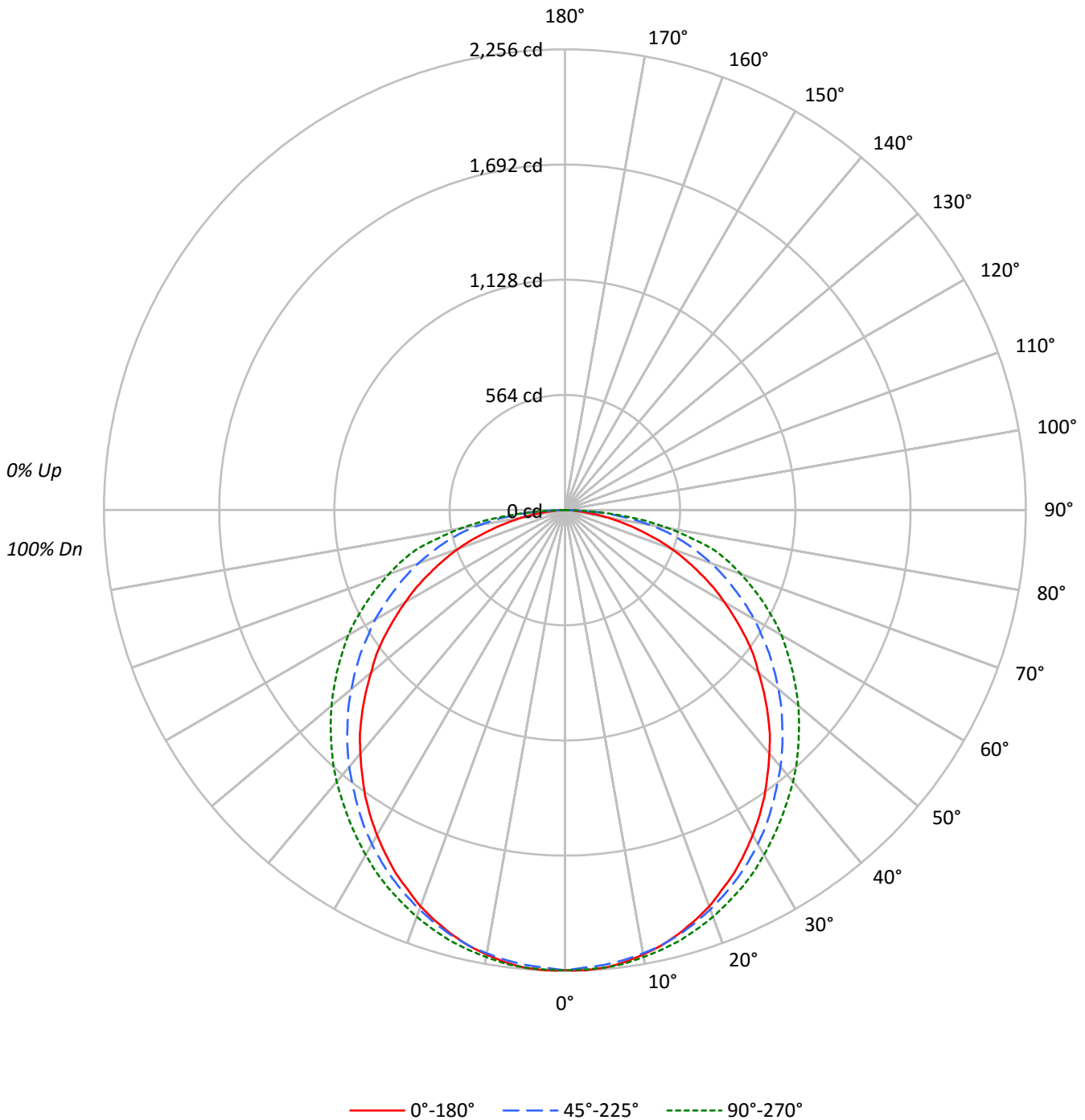
Input Watts (W): 60.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3032	3032	3032
5°	3037	3019	3037
10°	3020	3011	3035
15°	2994	3000	3038
20°	2957	2980	3035
25°	2911	2958	3032
30°	2857	2934	3029
35°	2800	2905	3031
40°	2736	2883	3050
45°	2670	2864	3076
50°	2591	2857	3122
55°	2526	2861	3186
60°	2428	2886	3294
65°	2317	2916	3414
70°	2194	3006	3603
75°	1956	3135	3936
80°	1669	3320	4023
85°	1190	3290	3850



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	213.3	3.1
10°-20°	609.8	8.9
20°-30°	921.1	13.5
30°-40°	1110.1	16.2
40°-50°	1165.4	17.1
50°-60°	1090.3	16.0
60°-70°	900.4	13.2
70°-80°	613.5	9.0
80°-90°	209.2	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°	1744.1	25.5
0°-40°	2854.2	41.8
0°-60°	5109.8	74.8
0°-90°	6833.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6833.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2254	2254	2254	2254	2254	
5°	2249	2247	2235	2249	2249	213
15°	2149	2151	2154	2176	2181	606
25°	1961	1970	1993	2031	2043	902
35°	1705	1723	1768	1827	1845	1065
45°	1403	1433	1505	1587	1616	1082
55°	1077	1120	1220	1319	1358	961
65°	728	789	916	1032	1072	722
75°	376	462	603	716	757	401
85°	77	152	213	240	249	96
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2253.5	2253.5	2253.5	2253.5	2253.5
2.5°	2255.7	2253.5	2242.1	2253.5	2251.2
5°	2248.9	2246.7	2235.3	2248.9	2248.9
7.5°	2233.1	2233.1	2221.7	2237.6	2239.9
10°	2210.4	2210.4	2203.6	2221.7	2221.7
12.5°	2183.2	2183.2	2183.2	2201.3	2203.6
15°	2149.2	2151.4	2153.7	2176.4	2180.9
17.5°	2108.4	2112.9	2119.7	2146.9	2151.4
20°	2065.3	2069.8	2081.2	2112.9	2119.7
22.5°	2010.9	2022.2	2038.1	2074.4	2081.2
25°	1961.0	1970.1	1992.8	2031.3	2042.6
27.5°	1899.8	1913.4	1942.9	1983.7	1999.6
30°	1838.6	1852.2	1888.5	1936.1	1949.7
32.5°	1772.8	1793.2	1831.8	1881.7	1897.5
35°	1704.8	1723.0	1768.3	1827.3	1845.4
37.5°	1630.0	1655.0	1704.8	1768.3	1791.0
40°	1557.5	1584.7	1641.4	1709.4	1736.6
42.5°	1484.9	1512.1	1575.6	1652.7	1679.9
45°	1403.3	1432.8	1505.3	1586.9	1616.4
47.5°	1321.7	1358.0	1437.3	1523.5	1555.2
50°	1237.8	1278.6	1364.8	1455.5	1491.7
52.5°	1163.0	1201.5	1292.2	1389.7	1423.7
55°	1076.9	1119.9	1219.7	1319.4	1358.0
57.5°	988.4	1036.0	1142.6	1251.4	1290.0
60°	902.3	954.4	1072.3	1181.1	1224.2
62.5°	818.4	870.6	993.0	1106.3	1149.4
65°	727.7	788.9	915.9	1031.5	1072.3
67.5°	641.6	707.3	841.1	954.4	995.2
70°	557.7	621.2	764.0	875.1	915.9
72.5°	467.0	539.6	682.4	798.0	841.1
75°	376.3	462.5	603.0	716.4	757.2
77.5°	292.5	380.9	521.4	614.4	634.8
80°	215.4	306.1	428.5	494.2	519.2
82.5°	138.3	229.0	326.5	374.1	394.5
85°	77.1	151.9	213.1	240.3	249.4
87.5°	31.7	65.7	86.1	97.5	97.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)