

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: P314117

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-CA08-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: P314117
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-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 6769.0 lumens
Efficiency: N/A
Efficacy: 114.7 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

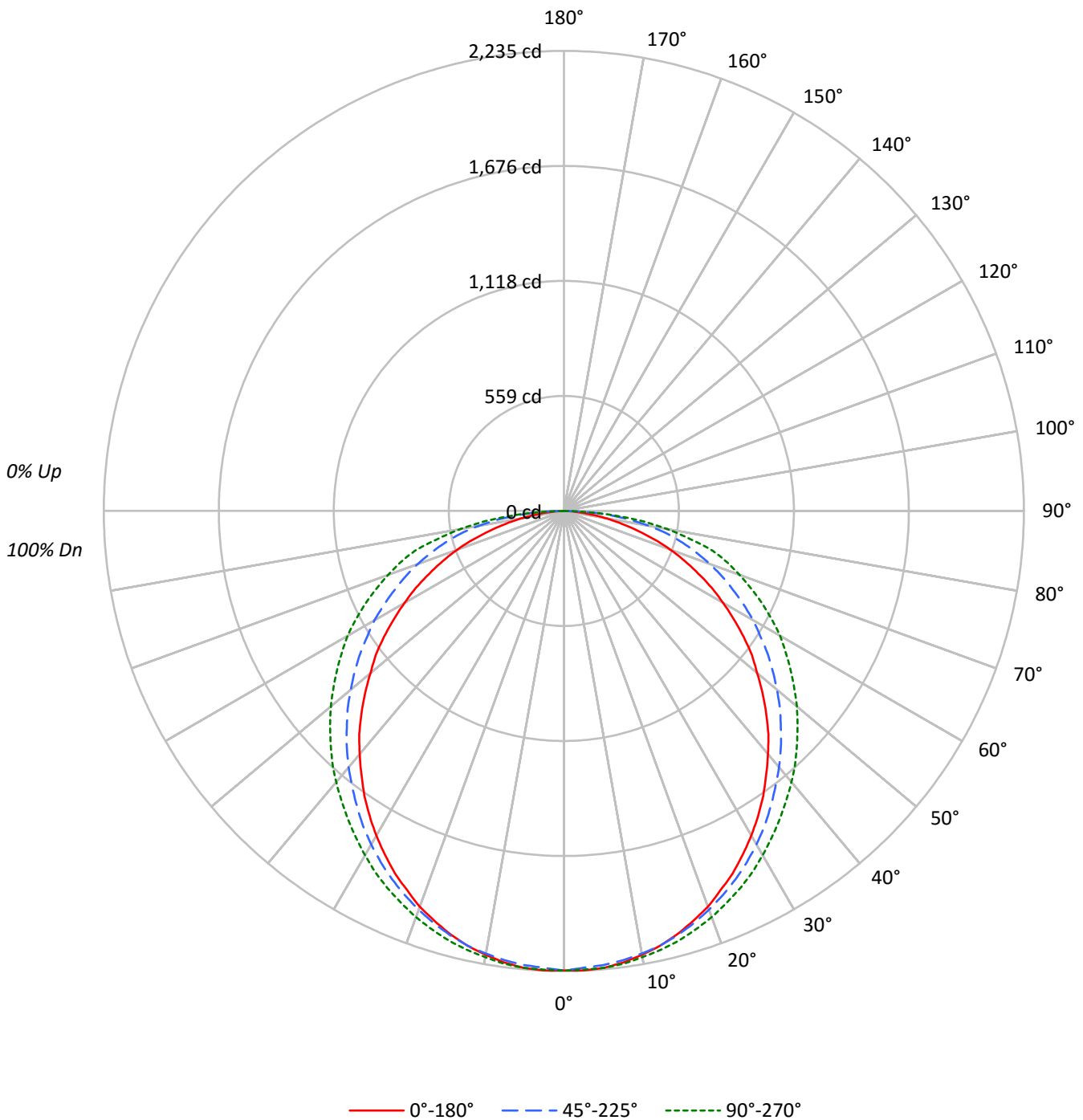
Input Watts (W): 59
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	3004	3004	3004
5°	3009	2991	3009
10°	2992	2982	3007
15°	2966	2972	3009
20°	2930	2952	3007
25°	2884	2931	3004
30°	2830	2907	3001
35°	2774	2877	3003
40°	2710	2856	3022
45°	2645	2837	3047
50°	2567	2830	3093
55°	2502	2834	3156
60°	2405	2859	3263
65°	2295	2889	3382
70°	2174	2977	3569
75°	1938	3106	3899
80°	1654	3289	3985
85°	1179	3259	3813



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.3	3.1
10°-20°	604.1	8.9
20°-30°	912.4	13.5
30°-40°	1099.7	16.2
40°-50°	1154.5	17.1
50°-60°	1080.1	16.0
60°-70°	891.9	13.2
70°-80°	607.8	9.0
80°-90°	207.3	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°	1727.8	25.5
0°-40°	2827.4	41.8
0°-60°	5062.0	74.8
0°-90°	6769.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6769.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2232	2232	2232	2232	2232	
5°	2228	2226	2214	2228	2228	211
15°	2129	2131	2134	2156	2160	600
25°	1943	1952	1974	2012	2024	894
35°	1689	1707	1752	1810	1828	1055
45°	1390	1419	1491	1572	1601	1072
55°	1067	1109	1208	1307	1345	952
65°	721	782	907	1022	1062	715
75°	373	458	597	710	750	398
85°	76	150	211	238	247	96
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2232.4	2232.4	2232.4	2232.4	2232.4
2.5°	2234.6	2232.4	2221.1	2232.4	2230.1
5°	2227.9	2225.6	2214.4	2227.9	2227.9
7.5°	2212.1	2212.1	2200.9	2216.6	2218.9
10°	2189.7	2189.7	2182.9	2200.9	2200.9
12.5°	2162.7	2162.7	2162.7	2180.7	2182.9
15°	2129.0	2131.3	2133.5	2156.0	2160.5
17.5°	2088.6	2093.1	2099.9	2126.8	2131.3
20°	2046.0	2050.4	2061.7	2093.1	2099.9
22.5°	1992.1	2003.3	2019.0	2054.9	2061.7
25°	1942.6	1951.6	1974.1	2012.3	2023.5
27.5°	1882.0	1895.5	1924.7	1965.1	1980.8
30°	1821.4	1834.8	1870.8	1917.9	1931.4
32.5°	1756.2	1776.5	1814.6	1864.0	1879.8
35°	1688.9	1706.8	1751.7	1810.1	1828.1
37.5°	1614.8	1639.5	1688.9	1751.7	1774.2
40°	1542.9	1569.8	1626.0	1693.4	1720.3
42.5°	1471.0	1498.0	1560.9	1637.2	1664.2
45°	1390.2	1419.4	1491.2	1572.1	1601.3
47.5°	1309.3	1345.3	1423.9	1509.2	1540.6
50°	1226.2	1266.6	1352.0	1441.8	1477.8
52.5°	1152.1	1190.3	1280.1	1376.7	1410.4
55°	1066.8	1109.4	1208.3	1307.1	1345.3
57.5°	979.2	1026.3	1131.9	1239.7	1277.9
60°	893.8	945.5	1062.3	1170.1	1212.7
62.5°	810.7	862.4	983.7	1096.0	1138.6
65°	720.9	781.5	907.3	1021.9	1062.3
67.5°	635.6	700.7	833.2	945.5	985.9
70°	552.5	615.4	756.8	866.9	907.3
72.5°	462.6	534.5	676.0	790.5	833.2
75°	372.8	458.1	597.4	709.7	750.1
77.5°	289.7	377.3	516.5	608.6	628.8
80°	213.4	303.2	424.5	489.6	514.3
82.5°	137.0	226.8	323.4	370.6	390.8
85°	76.4	150.5	211.1	238.1	247.0
87.5°	31.4	65.1	85.3	96.6	96.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)