

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: P311089

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA125-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: P311089
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-L82765-CA125-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" 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: 6614.0 lumens
Efficiency: N/A
Efficacy: 111.9 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

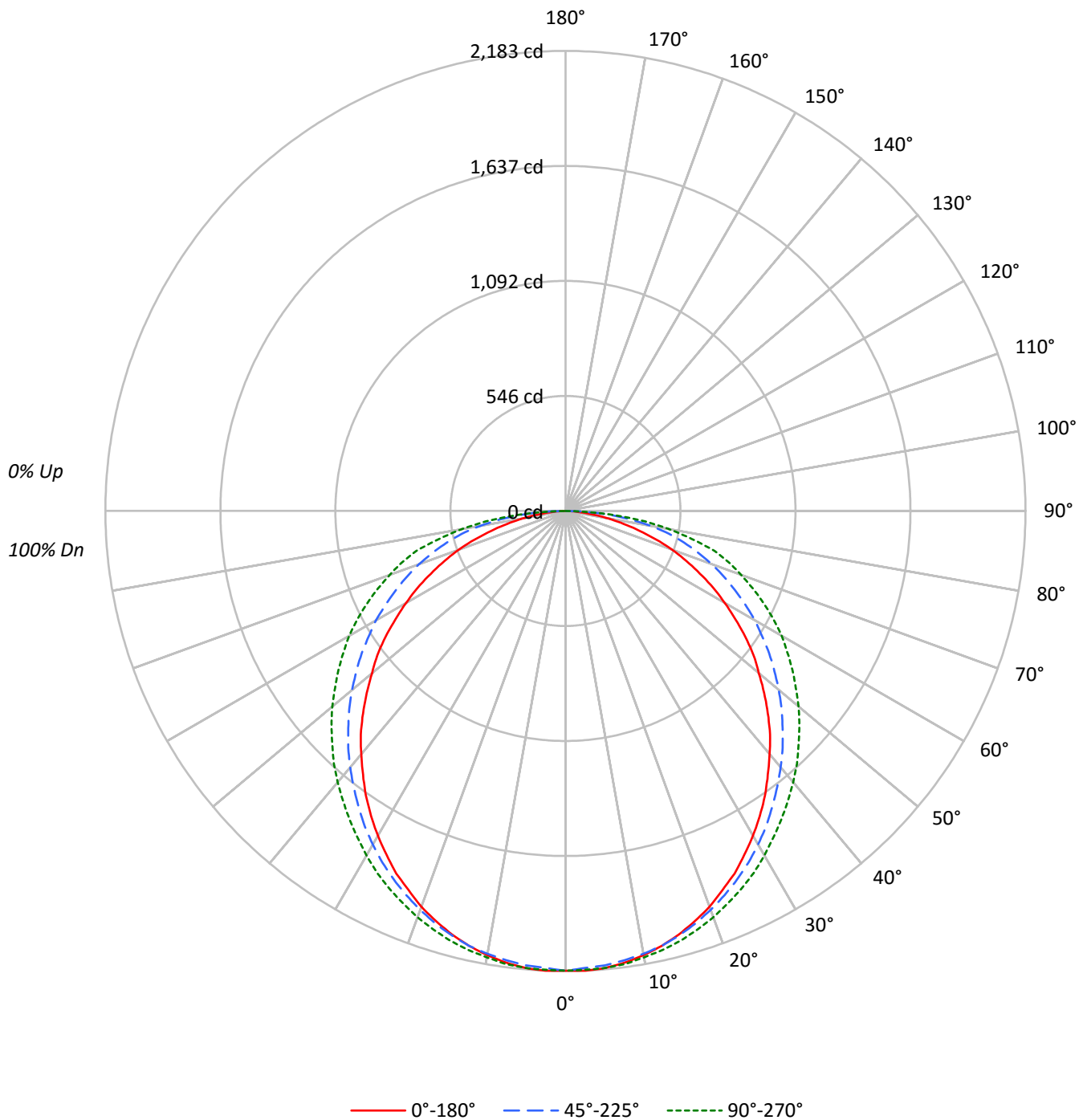
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	100	96	92	96	92	89		92	89	87		82
2	98	89	81	75	95	87	80	74	83	78	73		80	75	71		67
3	89	77	69	62	86	76	68	61	73	66	60		70	64	59		56
4	81	68	59	52	79	67	58	52	64	57	51		62	56	50		47
5	74	61	52	45	72	60	51	44	58	50	44		56	49	43		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	64	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	37	31	57	45	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2935	2935	2935
5°	2940	2922	2940
10°	2923	2914	2938
15°	2898	2904	2941
20°	2862	2884	2938
25°	2818	2864	2935
30°	2765	2840	2932
35°	2711	2811	2934
40°	2648	2791	2952
45°	2585	2773	2977
50°	2508	2765	3022
55°	2445	2769	3083
60°	2350	2793	3189
65°	2243	2822	3305
70°	2124	2909	3487
75°	1894	3034	3810
80°	1616	3213	3894
85°	1152	3185	3727



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.4	3.1
10°-20°	590.3	8.9
20°-30°	891.5	13.5
30°-40°	1074.5	16.2
40°-50°	1128.0	17.1
50°-60°	1055.3	16.0
60°-70°	871.5	13.2
70°-80°	593.9	9.0
80°-90°	202.5	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°	1688.2	25.5
0°-40°	2762.7	41.8
0°-60°	4946.1	74.8
0°-90°	6614.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6614.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2181	2181	2181	2181	2181	
5°	2177	2175	2164	2177	2177	207
15°	2080	2082	2085	2107	2111	586
25°	1898	1907	1929	1966	1977	873
35°	1650	1668	1712	1769	1786	1031
45°	1358	1387	1457	1536	1565	1048
55°	1042	1084	1181	1277	1314	930
65°	704	764	886	998	1038	699
75°	364	448	584	693	733	388
85°	75	147	206	233	241	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2181.2	2181.2	2181.2	2181.2	2181.2
2.5°	2183.4	2181.2	2170.3	2181.2	2179.0
5°	2176.9	2174.7	2163.7	2176.9	2176.9
7.5°	2161.5	2161.5	2150.5	2165.9	2168.1
10°	2139.5	2139.5	2133.0	2150.5	2150.5
12.5°	2113.2	2113.2	2113.2	2130.8	2133.0
15°	2080.3	2082.5	2084.7	2106.6	2111.0
17.5°	2040.8	2045.2	2051.8	2078.1	2082.5
20°	1999.1	2003.5	2014.5	2045.2	2051.8
22.5°	1946.4	1957.4	1972.8	2007.9	2014.5
25°	1898.2	1906.9	1928.9	1966.2	1977.2
27.5°	1838.9	1852.1	1880.6	1920.1	1935.5
30°	1779.7	1792.8	1827.9	1874.0	1887.2
32.5°	1716.0	1735.8	1773.1	1821.4	1836.7
35°	1650.2	1667.7	1711.6	1768.7	1786.2
37.5°	1577.8	1601.9	1650.2	1711.6	1733.6
40°	1507.6	1533.9	1588.8	1654.6	1680.9
42.5°	1437.3	1463.7	1525.1	1599.7	1626.1
45°	1358.3	1386.9	1457.1	1536.1	1564.6
47.5°	1279.3	1314.4	1391.3	1474.6	1505.4
50°	1198.1	1237.6	1321.0	1408.8	1443.9
52.5°	1125.7	1163.0	1250.8	1345.2	1378.1
55°	1042.3	1084.0	1180.6	1277.1	1314.4
57.5°	956.8	1002.8	1106.0	1211.3	1248.6
60°	873.4	923.8	1038.0	1143.3	1185.0
62.5°	792.2	842.7	961.1	1070.9	1112.6
65°	704.4	763.7	886.5	998.5	1038.0
67.5°	621.0	684.7	814.1	923.8	963.3
70°	539.8	601.3	739.5	847.0	886.5
72.5°	452.0	522.3	660.5	772.4	814.1
75°	364.3	447.7	583.7	693.4	732.9
77.5°	283.1	368.7	504.7	594.7	614.4
80°	208.5	296.2	414.7	478.4	502.5
82.5°	133.9	221.6	316.0	362.1	381.8
85°	74.6	147.0	206.3	232.6	241.4
87.5°	30.7	63.6	83.4	94.4	94.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)