

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: P311088

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-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: P311088
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-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: 6526.0 lumens
Efficiency: N/A
Efficacy: 111.0 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

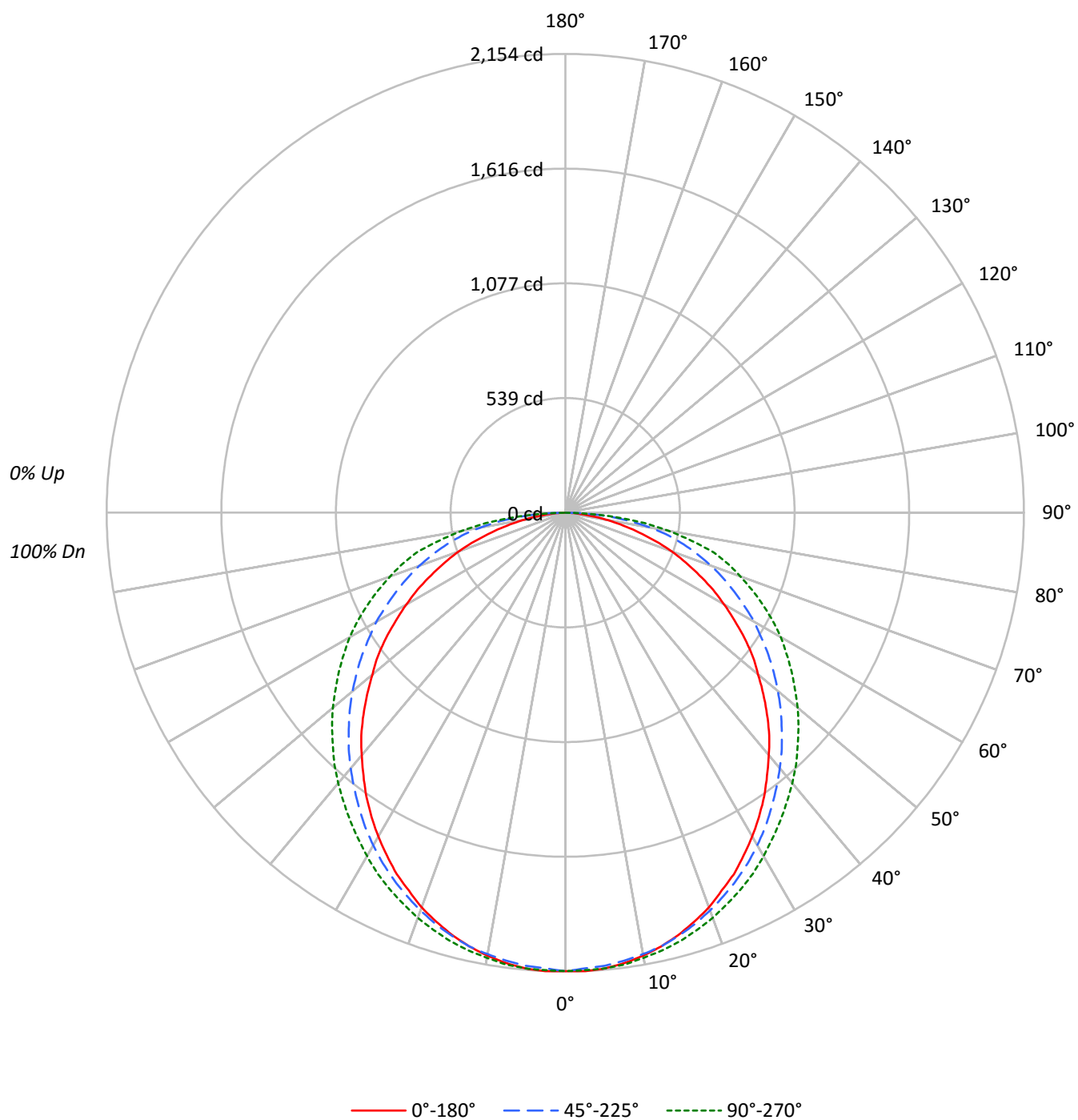
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2896	2896	2896
5°	2901	2883	2901
10°	2884	2875	2899
15°	2859	2865	2901
20°	2824	2846	2899
25°	2780	2825	2896
30°	2728	2802	2893
35°	2674	2774	2895
40°	2613	2753	2913
45°	2550	2736	2938
50°	2475	2728	2982
55°	2413	2733	3042
60°	2319	2756	3146
65°	2213	2785	3260
70°	2095	2871	3441
75°	1868	2994	3760
80°	1594	3171	3842
85°	1136	3142	3677



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.7	3.1
10°-20°	582.4	8.9
20°-30°	879.7	13.5
30°-40°	1060.2	16.2
40°-50°	1113.0	17.1
50°-60°	1041.3	16.0
60°-70°	859.9	13.2
70°-80°	586.0	9.0
80°-90°	199.8	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°	1665.8	25.5
0°-40°	2726.0	41.8
0°-60°	4880.3	74.8
0°-90°	6526.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6526.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2152	2152	2152	2152	2152	
5°	2148	2146	2135	2148	2148	204
15°	2053	2055	2057	2079	2083	579
25°	1873	1882	1903	1940	1951	862
35°	1628	1646	1689	1745	1762	1018
45°	1340	1368	1438	1516	1544	1034
55°	1028	1070	1165	1260	1297	918
65°	695	754	875	985	1024	689
75°	359	442	576	684	723	383
85°	74	145	204	230	238	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2152.2	2152.2	2152.2	2152.2	2152.2
2.5°	2154.4	2152.2	2141.4	2152.2	2150.1
5°	2147.9	2145.7	2134.9	2147.9	2147.9
7.5°	2132.7	2132.7	2121.9	2137.1	2139.2
10°	2111.1	2111.1	2104.6	2121.9	2121.9
12.5°	2085.1	2085.1	2085.1	2102.4	2104.6
15°	2052.6	2054.8	2056.9	2078.6	2082.9
17.5°	2013.6	2018.0	2024.5	2050.5	2054.8
20°	1972.5	1976.8	1987.7	2018.0	2024.5
22.5°	1920.5	1931.4	1946.5	1981.2	1987.7
25°	1872.9	1881.6	1903.2	1940.0	1950.9
27.5°	1814.4	1827.4	1855.6	1894.6	1909.7
30°	1756.0	1769.0	1803.6	1849.1	1862.1
32.5°	1693.2	1712.7	1749.5	1797.1	1812.3
35°	1628.2	1645.6	1688.9	1745.2	1762.5
37.5°	1556.8	1580.6	1628.2	1688.9	1710.5
40°	1487.5	1513.5	1567.6	1632.6	1658.6
42.5°	1418.2	1444.2	1504.8	1578.4	1604.4
45°	1340.3	1368.4	1437.7	1515.6	1543.8
47.5°	1262.3	1297.0	1372.7	1455.0	1485.3
50°	1182.2	1221.2	1303.5	1390.1	1424.7
52.5°	1110.8	1147.6	1234.2	1327.3	1359.8
55°	1028.5	1069.6	1164.9	1260.2	1297.0
57.5°	944.0	989.5	1091.3	1195.2	1232.0
60°	861.8	911.6	1024.1	1128.1	1169.2
62.5°	781.6	831.4	948.4	1056.6	1097.8
65°	695.0	753.5	874.7	985.2	1024.1
67.5°	612.8	675.5	803.3	911.6	950.5
70°	532.6	593.3	729.7	835.8	874.7
72.5°	446.0	515.3	651.7	762.2	803.3
75°	359.4	441.7	575.9	684.2	723.2
77.5°	279.3	363.8	498.0	586.8	606.3
80°	205.7	292.3	409.2	472.0	495.8
82.5°	132.1	218.7	311.8	357.3	376.7
85°	73.6	145.1	203.5	229.5	238.2
87.5°	30.3	62.8	82.3	93.1	93.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)