

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: P311090

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA125-W2A-U-5500K**

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: P311090
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-5500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 5500K 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: 6680.0 lumens
Efficiency: N/A
Efficacy: 112.6 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

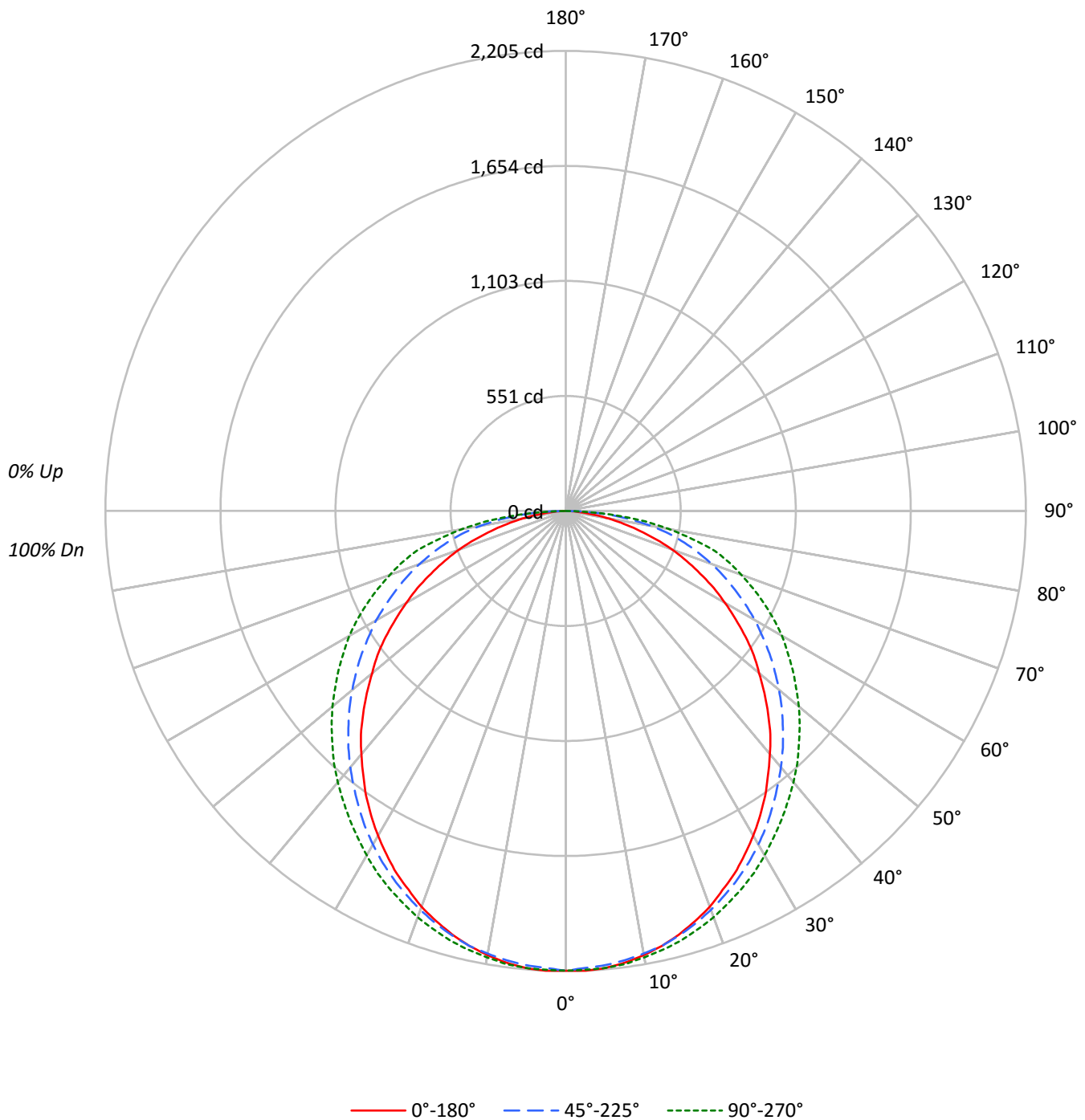
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2964	2964	2964
5°	2969	2952	2969
10°	2952	2943	2967
15°	2927	2933	2970
20°	2891	2913	2967
25°	2846	2892	2965
30°	2793	2868	2961
35°	2738	2839	2963
40°	2674	2818	2982
45°	2610	2800	3007
50°	2533	2793	3053
55°	2469	2797	3114
60°	2374	2821	3221
65°	2265	2851	3337
70°	2145	2938	3522
75°	1913	3065	3848
80°	1631	3246	3932
85°	1164	3216	3764



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.5	3.1
10°-20°	596.1	8.9
20°-30°	900.4	13.5
30°-40°	1085.2	16.2
40°-50°	1139.3	17.1
50°-60°	1065.9	16.0
60°-70°	880.2	13.2
70°-80°	599.8	9.0
80°-90°	204.5	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°	1705.1	25.5
0°-40°	2790.3	41.8
0°-60°	4995.4	74.8
0°-90°	6680.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6680.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2203	2203	2203	2203	2203	
5°	2199	2196	2185	2199	2199	209
15°	2101	2103	2106	2128	2132	592
25°	1917	1926	1948	1986	1997	882
35°	1667	1684	1729	1786	1804	1042
45°	1372	1401	1472	1551	1580	1058
55°	1053	1095	1192	1290	1328	940
65°	711	771	895	1008	1048	706
75°	368	452	590	700	740	392
85°	75	148	208	235	244	94
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2203.0	2203.0	2203.0	2203.0	2203.0
2.5°	2205.2	2203.0	2191.9	2203.0	2200.8
5°	2198.6	2196.4	2185.3	2198.6	2198.6
7.5°	2183.1	2183.1	2172.0	2187.5	2189.7
10°	2160.9	2160.9	2154.2	2172.0	2172.0
12.5°	2134.3	2134.3	2134.3	2152.0	2154.2
15°	2101.1	2103.3	2105.5	2127.7	2132.1
17.5°	2061.2	2065.6	2072.2	2098.8	2103.3
20°	2019.1	2023.5	2034.6	2065.6	2072.2
22.5°	1965.9	1976.9	1992.5	2027.9	2034.6
25°	1917.1	1926.0	1948.1	1985.8	1996.9
27.5°	1857.3	1870.6	1899.4	1939.3	1954.8
30°	1797.4	1810.7	1846.2	1892.7	1906.0
32.5°	1733.1	1753.1	1790.8	1839.5	1855.0
35°	1666.7	1684.4	1728.7	1786.3	1804.1
37.5°	1593.5	1617.9	1666.7	1728.7	1750.9
40°	1522.6	1549.2	1604.6	1671.1	1697.7
42.5°	1451.7	1478.3	1540.3	1615.7	1642.3
45°	1371.9	1400.7	1471.6	1551.4	1580.2
47.5°	1292.1	1327.6	1405.1	1489.4	1520.4
50°	1210.1	1250.0	1334.2	1422.9	1458.3
52.5°	1137.0	1174.6	1263.3	1358.6	1391.8
55°	1052.7	1094.9	1192.4	1289.9	1327.6
57.5°	966.3	1012.9	1117.0	1223.4	1261.1
60°	882.1	933.1	1048.3	1154.7	1196.8
62.5°	800.1	851.1	970.7	1081.6	1123.7
65°	711.4	771.3	895.4	1008.4	1048.3
67.5°	627.2	691.5	822.2	933.1	973.0
70°	545.2	607.3	746.9	855.5	895.4
72.5°	456.6	527.5	667.1	780.1	822.2
75°	367.9	452.1	589.5	700.4	740.2
77.5°	285.9	372.3	509.7	600.6	620.6
80°	210.5	299.2	418.9	483.2	507.5
82.5°	135.2	223.8	319.1	365.7	385.6
85°	75.4	148.5	208.3	234.9	243.8
87.5°	31.0	64.3	84.2	95.3	95.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)