

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: P311769

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-S-CP125-W2A-U-3000K**

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: P311769
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" POLYCARB SHEET
Light Source: (336) 3000K 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: 6248.0 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

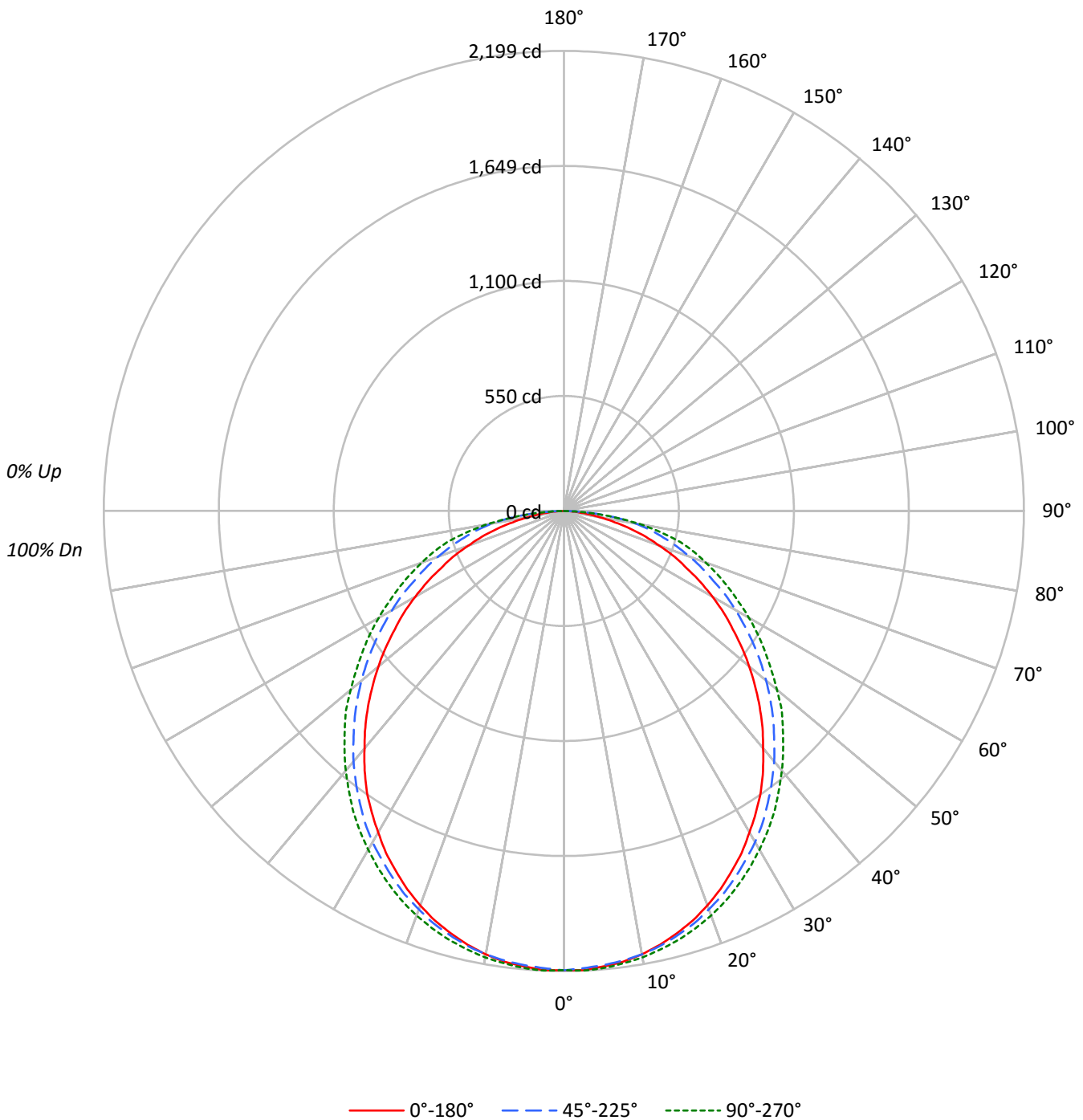
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2953	2953	2953
5°	2951	2943	2962
10°	2939	2939	2961
15°	2911	2925	2955
20°	2873	2901	2947
25°	2820	2873	2929
30°	2756	2840	2905
35°	2696	2794	2882
40°	2604	2747	2848
45°	2519	2692	2817
50°	2422	2642	2783
55°	2314	2593	2756
60°	2206	2553	2750
65°	2066	2508	2768
70°	1913	2522	2842
75°	1712	2569	3002
80°	1384	2722	2937
85°	1042	2390	2328



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.8	3.3
10°-20°	593.8	9.5
20°-30°	892.5	14.3
30°-40°	1063.2	17.0
40°-50°	1088.1	17.4
50°-60°	979.6	15.7
60°-70°	769.3	12.3
70°-80°	499.3	8.0
80°-90°	154.4	2.5
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°	1694.1	27.1
0°-40°	2757.3	44.1
0°-60°	4825.0	77.2
0°-90°	6248.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6248.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2195	2195	2195	2195	2195	
5°	2185	2189	2179	2191	2193	208
15°	2090	2096	2100	2118	2122	589
25°	1899	1915	1935	1967	1973	875
35°	1641	1661	1701	1742	1754	1024
45°	1324	1356	1415	1469	1480	1021
55°	986	1030	1105	1163	1175	884
65°	649	699	788	853	869	646
75°	329	393	494	562	578	349
85°	68	125	155	151	151	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2195.0	2195.0	2195.0	2195.0	2195.0
2.5°	2196.9	2196.9	2187.0	2196.9	2198.9
5°	2185.0	2189.0	2179.1	2191.0	2193.0
7.5°	2173.1	2173.1	2167.2	2179.1	2181.1
10°	2151.3	2153.3	2151.3	2165.2	2167.2
12.5°	2123.5	2127.5	2129.5	2143.4	2145.3
15°	2089.8	2095.7	2099.7	2117.6	2121.5
17.5°	2052.1	2058.0	2067.9	2087.8	2091.8
20°	2006.4	2014.4	2026.3	2052.1	2058.0
22.5°	1956.8	1964.8	1984.6	2008.4	2018.3
25°	1899.3	1915.1	1935.0	1966.7	1972.7
27.5°	1841.7	1855.6	1881.4	1915.1	1923.1
30°	1774.2	1796.1	1827.8	1861.6	1869.5
32.5°	1708.7	1730.6	1768.3	1804.0	1813.9
35°	1641.3	1661.1	1700.8	1742.5	1754.4
37.5°	1563.9	1589.7	1633.3	1675.0	1686.9
40°	1482.5	1514.2	1563.9	1607.5	1621.4
42.5°	1405.1	1438.8	1488.4	1536.1	1552.0
45°	1323.7	1355.5	1415.0	1468.6	1480.5
47.5°	1240.4	1276.1	1339.6	1393.2	1413.0
50°	1157.0	1194.7	1262.2	1317.8	1329.7
52.5°	1073.7	1113.4	1184.8	1244.3	1250.3
55°	986.3	1030.0	1105.4	1163.0	1174.9
57.5°	907.0	944.7	1026.0	1085.6	1099.5
60°	819.6	861.3	948.6	1004.2	1022.1
62.5°	736.3	779.9	871.2	926.8	942.7
65°	649.0	698.6	787.9	853.4	869.3
67.5°	573.5	621.2	716.4	779.9	795.8
70°	486.2	539.8	641.0	706.5	722.4
72.5°	410.8	466.4	567.6	631.1	654.9
75°	329.4	393.0	494.2	561.6	577.5
77.5°	250.1	323.5	426.7	478.3	478.3
80°	178.6	256.0	351.3	375.1	379.1
82.5°	117.1	192.5	260.0	258.0	258.0
85°	67.5	125.0	154.8	150.8	150.8
87.5°	25.8	51.6	55.6	55.6	53.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)