

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: P311085

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA125-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: P311085
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-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC 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: 6065.0 lumens
Efficiency: N/A
Efficacy: 105.8 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

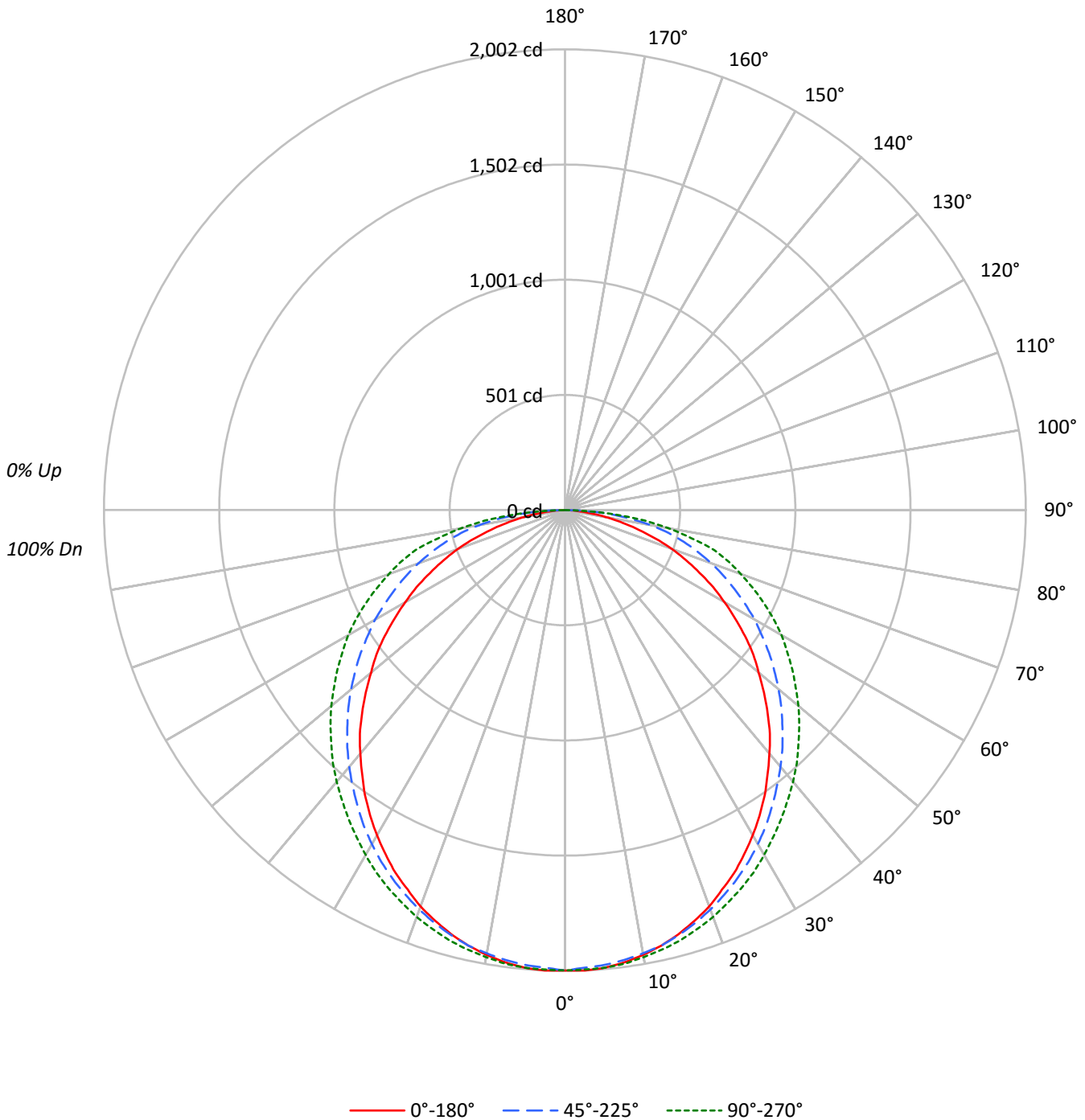
Input Watts (W): 57.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2691	2691	2691
5°	2696	2680	2696
10°	2681	2672	2694
15°	2657	2663	2696
20°	2625	2645	2694
25°	2584	2626	2692
30°	2535	2604	2689
35°	2485	2578	2690
40°	2428	2559	2707
45°	2370	2542	2730
50°	2300	2536	2772
55°	2242	2540	2827
60°	2155	2561	2924
65°	2056	2588	3030
70°	1947	2668	3198
75°	1736	2783	3494
80°	1481	2947	3570
85°	1056	2921	3416



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.3	3.1
10°-20°	541.3	8.9
20°-30°	817.5	13.5
30°-40°	985.3	16.2
40°-50°	1034.4	17.1
50°-60°	967.7	16.0
60°-70°	799.2	13.2
70°-80°	544.6	9.0
80°-90°	185.7	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°	1548.1	25.5
0°-40°	2533.4	41.8
0°-60°	4535.5	74.8
0°-90°	6065.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6065.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2000	2000	2000	2000	2000	
5°	1996	1994	1984	1996	1996	189
15°	1908	1910	1912	1932	1936	538
25°	1741	1749	1769	1803	1813	801
35°	1513	1529	1570	1622	1638	946
45°	1246	1272	1336	1409	1435	961
55°	956	994	1083	1171	1205	853
65°	646	700	813	916	952	641
75°	334	410	535	636	672	356
85°	68	135	189	213	221	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2000.2	2000.2	2000.2	2000.2	2000.2
2.5°	2002.2	2000.2	1990.1	2000.2	1998.2
5°	1996.2	1994.1	1984.1	1996.2	1996.2
7.5°	1982.1	1982.1	1972.0	1986.1	1988.1
10°	1962.0	1962.0	1955.9	1972.0	1972.0
12.5°	1937.8	1937.8	1937.8	1953.9	1955.9
15°	1907.6	1909.6	1911.6	1931.8	1935.8
17.5°	1871.4	1875.4	1881.5	1905.6	1909.6
20°	1833.2	1837.2	1847.3	1875.4	1881.5
22.5°	1784.9	1794.9	1809.0	1841.2	1847.3
25°	1740.6	1748.7	1768.8	1803.0	1813.0
27.5°	1686.3	1698.3	1724.5	1760.7	1774.8
30°	1631.9	1644.0	1676.2	1718.5	1730.5
32.5°	1573.6	1591.7	1625.9	1670.2	1684.3
35°	1513.2	1529.3	1569.6	1621.9	1638.0
37.5°	1446.8	1468.9	1513.2	1569.6	1589.7
40°	1382.4	1406.6	1456.9	1517.2	1541.4
42.5°	1318.0	1342.2	1398.5	1466.9	1491.1
45°	1245.6	1271.7	1336.1	1408.6	1434.7
47.5°	1173.1	1205.3	1275.8	1352.2	1380.4
50°	1098.7	1134.9	1211.4	1291.9	1324.1
52.5°	1032.3	1066.5	1147.0	1233.5	1263.7
55°	955.8	994.1	1082.6	1171.1	1205.3
57.5°	877.3	919.6	1014.2	1110.8	1145.0
60°	800.9	847.2	951.8	1048.4	1086.6
62.5°	726.4	772.7	881.4	982.0	1020.2
65°	645.9	700.3	813.0	915.6	951.8
67.5°	569.5	627.8	746.5	847.2	883.4
70°	495.0	551.4	678.1	776.7	813.0
72.5°	414.5	478.9	605.7	708.3	746.5
75°	334.0	410.5	535.3	635.9	672.1
77.5°	259.6	338.1	462.8	545.3	563.4
80°	191.2	271.7	380.3	438.7	460.8
82.5°	122.7	203.2	289.8	332.0	350.1
85°	68.4	134.8	189.2	213.3	221.3
87.5°	28.2	58.4	76.5	86.5	86.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)