

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: P311084

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA125-W2A-U-2700K**

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: P311084
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-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 2700K 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: 5894.0 lumens
Efficiency: N/A
Efficacy: 102.1 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

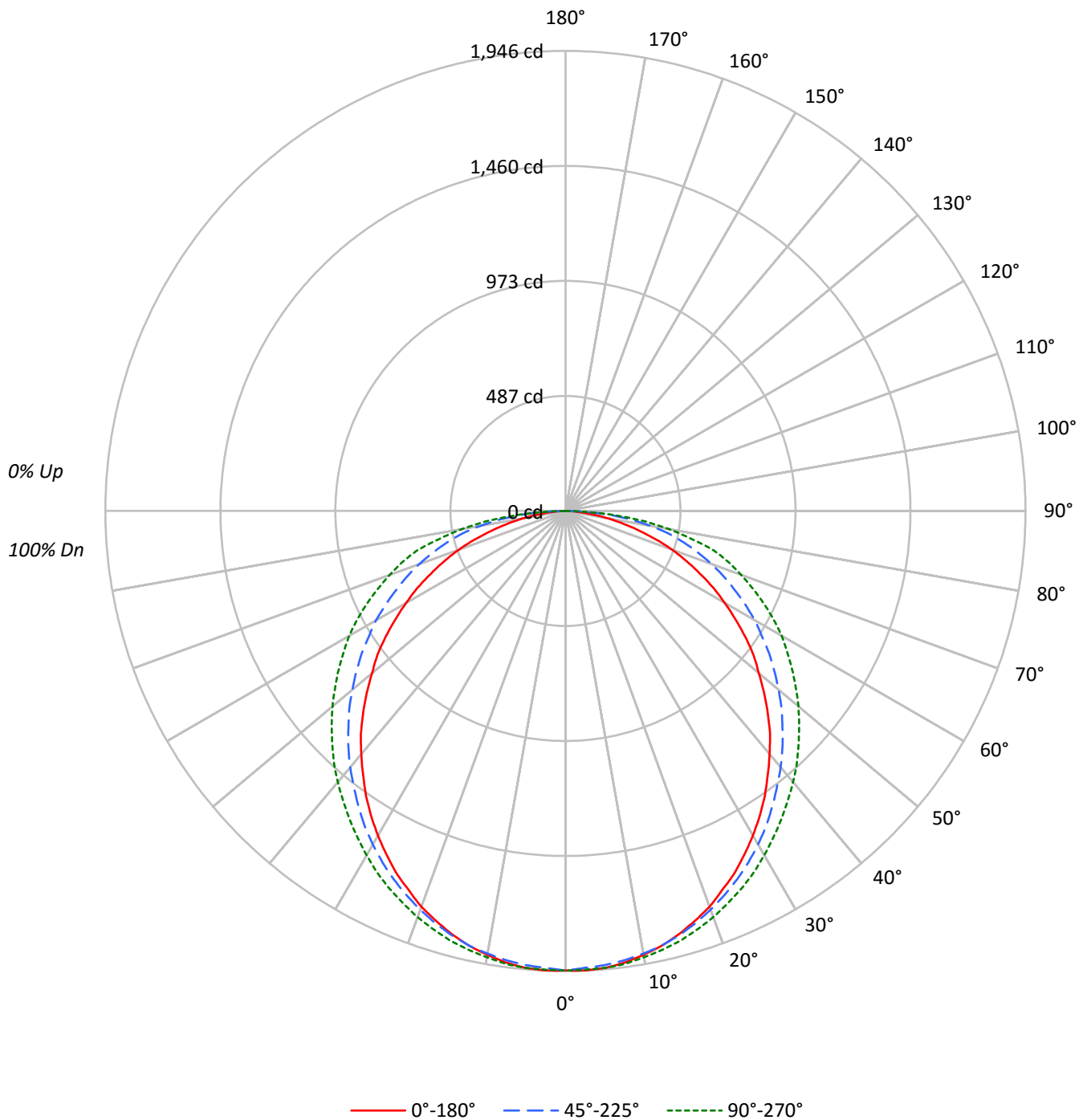
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2615	2615	2615
5°	2620	2604	2620
10°	2605	2597	2618
15°	2582	2588	2620
20°	2551	2570	2618
25°	2511	2552	2616
30°	2464	2531	2613
35°	2416	2505	2615
40°	2360	2487	2631
45°	2303	2471	2653
50°	2235	2464	2693
55°	2179	2468	2748
60°	2094	2489	2842
65°	1998	2515	2945
70°	1893	2592	3108
75°	1687	2704	3395
80°	1440	2864	3470
85°	1027	2837	3321



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.0	3.1
10°-20°	526.0	8.9
20°-30°	794.5	13.5
30°-40°	957.5	16.2
40°-50°	1005.2	17.1
50°-60°	940.4	16.0
60°-70°	776.6	13.2
70°-80°	529.2	9.0
80°-90°	180.5	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°	1504.4	25.5
0°-40°	2462.0	41.8
0°-60°	4407.6	74.8
0°-90°	5894.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5894.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1944	1944	1944	1944	1944	
5°	1940	1938	1928	1940	1940	184
15°	1854	1856	1858	1877	1881	523
25°	1692	1699	1719	1752	1762	778
35°	1471	1486	1525	1576	1592	919
45°	1210	1236	1298	1369	1394	934
55°	929	966	1052	1138	1171	829
65°	628	680	790	890	925	623
75°	325	399	520	618	653	346
85°	66	131	184	207	215	83
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1943.8	1943.8	1943.8	1943.8	1943.8
2.5°	1945.7	1943.8	1934.0	1943.8	1941.8
5°	1939.9	1937.9	1928.1	1939.9	1939.9
7.5°	1926.2	1926.2	1916.4	1930.1	1932.1
10°	1906.6	1906.6	1900.8	1916.4	1916.4
12.5°	1883.2	1883.2	1883.2	1898.8	1900.8
15°	1853.8	1855.8	1857.7	1877.3	1881.2
17.5°	1818.6	1822.5	1828.4	1851.9	1855.8
20°	1781.5	1785.4	1795.2	1822.5	1828.4
22.5°	1734.5	1744.3	1758.0	1789.3	1795.2
25°	1691.5	1699.3	1718.9	1752.1	1761.9
27.5°	1638.7	1650.5	1675.9	1711.1	1724.8
30°	1585.9	1597.7	1629.0	1670.0	1681.7
32.5°	1529.2	1546.8	1580.1	1623.1	1636.8
35°	1470.6	1486.2	1525.3	1576.2	1591.8
37.5°	1406.0	1427.5	1470.6	1525.3	1544.9
40°	1343.4	1366.9	1415.8	1474.5	1497.9
42.5°	1280.9	1304.3	1359.1	1425.6	1449.0
45°	1210.5	1235.9	1298.5	1368.9	1394.3
47.5°	1140.1	1171.4	1239.8	1314.1	1341.5
50°	1067.7	1102.9	1177.2	1255.4	1286.7
52.5°	1003.2	1036.4	1114.6	1198.7	1228.1
55°	928.9	966.0	1052.1	1138.1	1171.4
57.5°	852.6	893.7	985.6	1079.4	1112.7
60°	778.3	823.3	925.0	1018.8	1056.0
62.5°	705.9	750.9	856.5	954.3	991.5
65°	627.7	680.5	790.0	889.8	925.0
67.5°	553.4	610.1	725.5	823.3	858.5
70°	481.1	535.8	659.0	754.8	790.0
72.5°	402.8	465.4	588.6	688.3	725.5
75°	324.6	398.9	520.2	617.9	653.1
77.5°	252.3	328.5	449.8	529.9	547.5
80°	185.8	264.0	369.6	426.3	447.8
82.5°	119.3	197.5	281.6	322.7	340.3
85°	66.5	131.0	183.8	207.3	215.1
87.5°	27.4	56.7	74.3	84.1	84.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)