

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: P311001

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA125-W2A-U-5700K**

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: P311001
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: 24FCZ2-60HE-UNV-L82765-CA125-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 5700K 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: 5729.0 lumens
Efficiency: N/A
Efficacy: 117.2 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

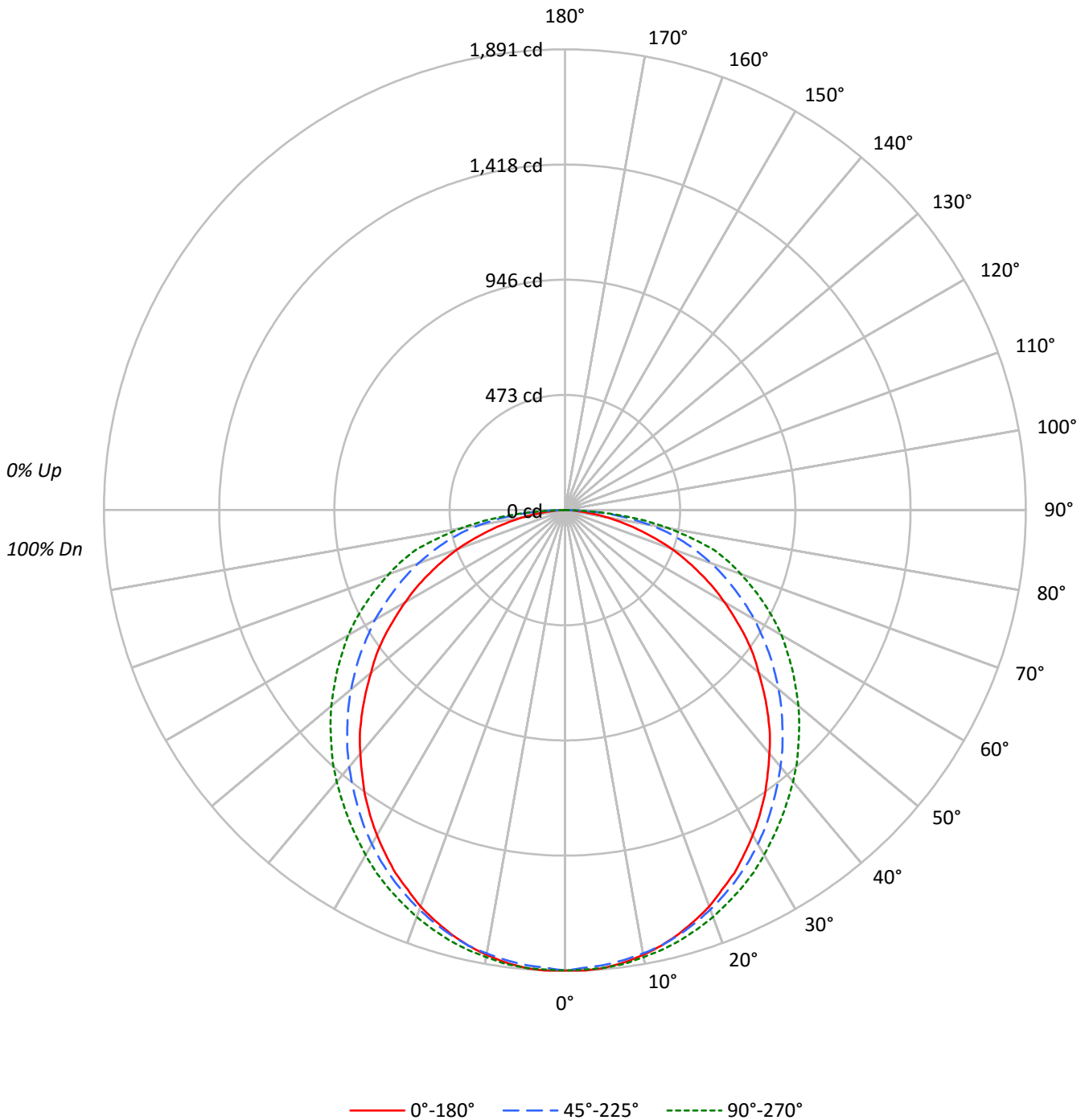
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2542	2542	2542
5°	2547	2531	2547
10°	2532	2524	2545
15°	2510	2515	2547
20°	2479	2498	2545
25°	2441	2480	2542
30°	2395	2460	2540
35°	2348	2435	2541
40°	2294	2417	2557
45°	2239	2402	2579
50°	2172	2395	2618
55°	2118	2399	2671
60°	2036	2419	2762
65°	1943	2445	2862
70°	1840	2520	3021
75°	1640	2628	3301
80°	1399	2783	3373
85°	997	2759	3228



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.8	3.1
10°-20°	511.3	8.9
20°-30°	772.2	13.5
30°-40°	930.7	16.2
40°-50°	977.1	17.1
50°-60°	914.1	16.0
60°-70°	754.9	13.2
70°-80°	514.4	9.0
80°-90°	175.4	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°	1462.3	25.5
0°-40°	2393.0	41.8
0°-60°	4284.3	74.8
0°-90°	5729.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5729.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1889	1889	1889	1889	1889	
5°	1886	1884	1874	1886	1886	179
15°	1802	1804	1806	1825	1828	508
25°	1644	1652	1671	1703	1713	757
35°	1429	1445	1483	1532	1547	893
45°	1177	1201	1262	1330	1355	907
55°	903	939	1023	1106	1139	806
65°	610	662	768	865	899	605
75°	316	388	506	601	635	336
85°	65	127	179	202	209	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1889.4	1889.4	1889.4	1889.4	1889.4
2.5°	1891.3	1889.4	1879.9	1889.4	1887.5
5°	1885.6	1883.7	1874.2	1885.6	1885.6
7.5°	1872.3	1872.3	1862.8	1876.1	1878.0
10°	1853.3	1853.3	1847.6	1862.8	1862.8
12.5°	1830.5	1830.5	1830.5	1845.7	1847.6
15°	1801.9	1803.8	1805.7	1824.7	1828.5
17.5°	1767.7	1771.5	1777.2	1800.0	1803.8
20°	1731.6	1735.4	1744.9	1771.5	1777.2
22.5°	1686.0	1695.5	1708.8	1739.2	1744.9
25°	1644.2	1651.8	1670.8	1703.1	1712.6
27.5°	1592.9	1604.3	1629.0	1663.2	1676.5
30°	1541.5	1552.9	1583.3	1623.3	1634.7
32.5°	1486.4	1503.5	1535.8	1577.6	1591.0
35°	1429.4	1444.6	1482.6	1532.0	1547.2
37.5°	1366.7	1387.6	1429.4	1482.6	1501.6
40°	1305.8	1328.6	1376.2	1433.2	1456.0
42.5°	1245.0	1267.8	1321.0	1385.7	1408.5
45°	1176.6	1201.3	1262.1	1330.5	1355.3
47.5°	1108.2	1138.6	1205.1	1277.3	1303.9
50°	1037.8	1072.0	1144.3	1220.3	1250.7
52.5°	975.1	1007.4	1083.4	1165.2	1193.7
55°	902.9	939.0	1022.6	1106.3	1138.6
57.5°	828.7	868.7	958.0	1049.2	1081.5
60°	756.5	800.2	899.1	990.3	1026.4
62.5°	686.2	729.9	832.5	927.6	963.7
65°	610.2	661.5	767.9	864.9	899.1
67.5°	537.9	593.0	705.2	800.2	834.4
70°	467.6	520.8	640.6	733.7	767.9
72.5°	391.6	452.4	572.1	669.1	705.2
75°	315.5	387.8	505.6	600.6	634.9
77.5°	245.2	319.3	437.2	515.1	532.2
80°	180.6	256.6	359.2	414.4	435.3
82.5°	115.9	192.0	273.7	313.6	330.7
85°	64.6	127.4	178.7	201.5	209.1
87.5°	26.6	55.1	72.2	81.7	81.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)