

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: P311669

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-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: P311669
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: 24FCZ2-60HE-UNV-L82765-S-CA125-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH 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: 5298.0 lumens
Efficiency: N/A
Efficacy: 111.3 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

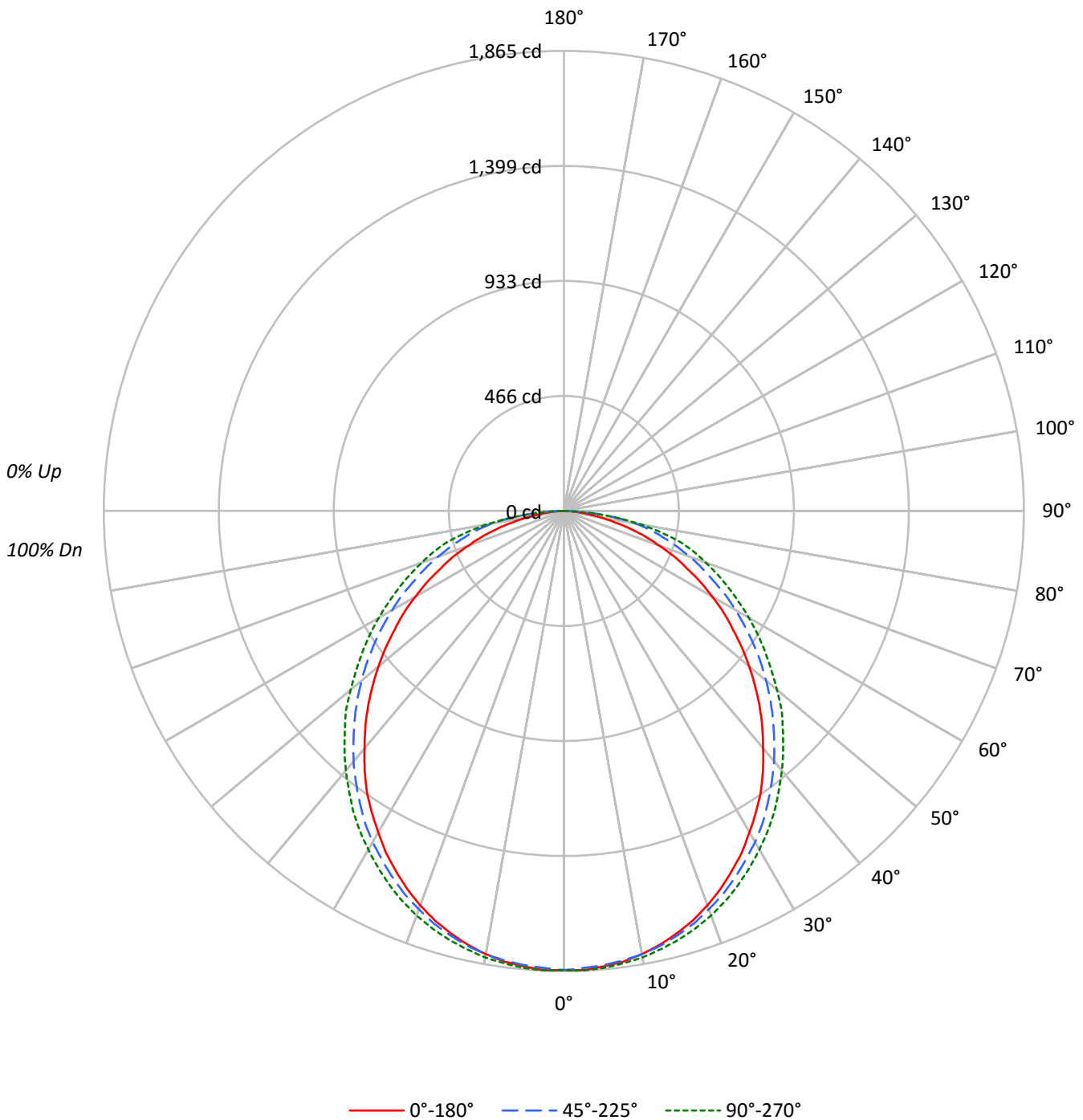
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2504	2504	2504
5°	2502	2496	2511
10°	2492	2492	2511
15°	2468	2480	2506
20°	2436	2460	2499
25°	2391	2436	2483
30°	2337	2408	2463
35°	2286	2369	2443
40°	2208	2329	2415
45°	2136	2283	2389
50°	2054	2240	2360
55°	1962	2199	2337
60°	1870	2165	2332
65°	1752	2127	2347
70°	1622	2138	2410
75°	1452	2178	2546
80°	1174	2308	2490
85°	883	2027	1974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.2	3.3
10°-20°	503.5	9.5
20°-30°	756.8	14.3
30°-40°	901.5	17.0
40°-50°	922.7	17.4
50°-60°	830.7	15.7
60°-70°	652.3	12.3
70°-80°	423.4	8.0
80°-90°	131.0	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°	1436.5	27.1
0°-40°	2338.0	44.1
0°-60°	4091.3	77.2
0°-90°	5298.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5298.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1861	1861	1861	1861	1861	
5°	1853	1856	1848	1858	1860	176
15°	1772	1777	1780	1796	1799	500
25°	1610	1624	1641	1668	1673	742
35°	1392	1408	1442	1478	1488	868
45°	1122	1149	1200	1245	1255	865
55°	836	873	937	986	996	750
65°	550	592	668	724	737	548
75°	279	333	419	476	490	296
85°	57	106	131	128	128	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1861.2	1861.2	1861.2	1861.2	1861.2
2.5°	1862.9	1862.9	1854.5	1862.9	1864.6
5°	1852.8	1856.2	1847.8	1857.9	1859.5
7.5°	1842.7	1842.7	1837.7	1847.8	1849.4
10°	1824.2	1825.9	1824.2	1836.0	1837.7
12.5°	1800.6	1804.0	1805.7	1817.5	1819.2
15°	1772.0	1777.1	1780.4	1795.6	1799.0
17.5°	1740.1	1745.1	1753.5	1770.3	1773.7
20°	1701.4	1708.1	1718.2	1740.1	1745.1
22.5°	1659.3	1666.0	1682.8	1703.0	1711.4
25°	1610.5	1623.9	1640.8	1667.7	1672.7
27.5°	1561.7	1573.5	1595.3	1623.9	1630.7
30°	1504.5	1523.0	1549.9	1578.5	1585.2
32.5°	1448.9	1467.4	1499.4	1529.7	1538.1
35°	1391.7	1408.5	1442.2	1477.5	1487.6
37.5°	1326.1	1348.0	1385.0	1420.3	1430.4
40°	1257.1	1284.0	1326.1	1363.1	1374.9
42.5°	1191.5	1220.1	1262.1	1302.5	1316.0
45°	1122.5	1149.4	1199.9	1245.3	1255.4
47.5°	1051.8	1082.1	1135.9	1181.4	1198.2
50°	981.1	1013.1	1070.3	1117.4	1127.5
52.5°	910.4	944.1	1004.7	1055.1	1060.2
55°	836.4	873.4	937.3	986.1	996.2
57.5°	769.1	801.0	870.0	920.5	932.3
60°	695.0	730.4	804.4	851.5	866.7
62.5°	624.3	661.4	738.8	785.9	799.3
65°	550.3	592.4	668.1	723.6	737.1
67.5°	486.3	526.7	607.5	661.4	674.8
70°	412.3	457.7	543.6	599.1	612.6
72.5°	348.3	395.5	481.3	535.1	555.3
75°	279.4	333.2	419.0	476.2	489.7
77.5°	212.0	274.3	361.8	405.6	405.6
80°	151.5	217.1	297.9	318.1	321.4
82.5°	99.3	163.2	220.5	218.8	218.8
85°	57.2	106.0	131.3	127.9	127.9
87.5°	21.9	43.8	47.1	47.1	45.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)