

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: P311679

Luminaire Tested: **24FCZ2-60HE-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: P311679
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-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: 5345.0 lumens
Efficiency: N/A
Efficacy: 113.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

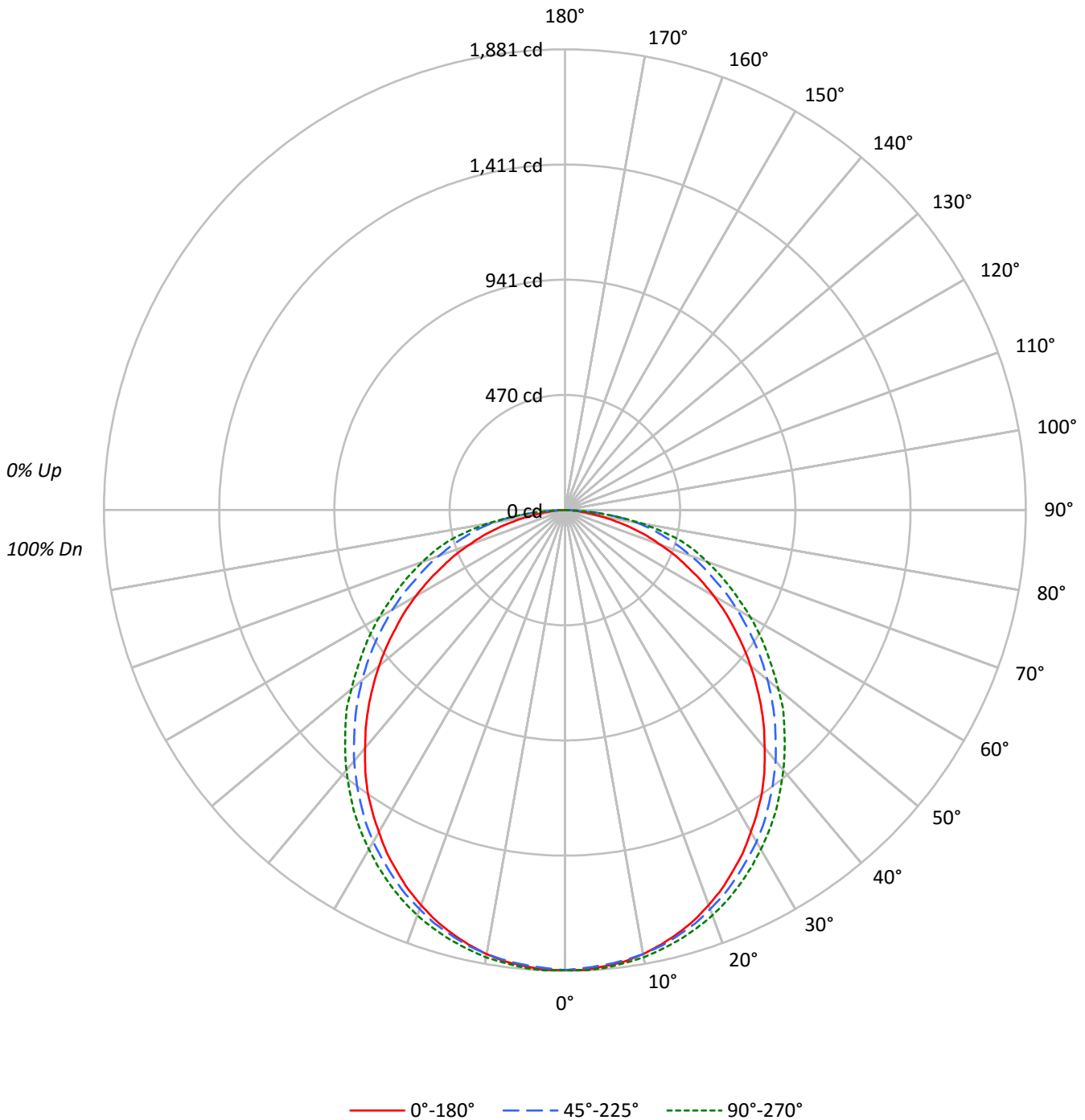
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	2526	2526	2526
5°	2525	2518	2534
10°	2514	2514	2533
15°	2490	2502	2528
20°	2458	2482	2521
25°	2412	2457	2505
30°	2358	2429	2485
35°	2306	2390	2465
40°	2227	2350	2436
45°	2155	2303	2410
50°	2072	2260	2381
55°	1979	2218	2358
60°	1887	2184	2353
65°	1768	2146	2367
70°	1637	2157	2431
75°	1465	2197	2569
80°	1184	2328	2513
85°	891	2044	1991



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.8	3.3
10°-20°	507.9	9.5
20°-30°	763.5	14.3
30°-40°	909.5	17.0
40°-50°	930.8	17.4
50°-60°	838.0	15.7
60°-70°	658.1	12.3
70°-80°	427.1	8.0
80°-90°	132.1	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°	1449.3	27.1
0°-40°	2358.8	44.1
0°-60°	4127.6	77.2
0°-90°	5345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5345.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1878	1878	1878	1878	1878	
5°	1869	1873	1864	1874	1876	178
15°	1788	1793	1796	1812	1815	504
25°	1625	1638	1655	1682	1688	748
35°	1404	1421	1455	1491	1501	876
45°	1132	1160	1210	1256	1266	873
55°	844	881	946	995	1005	756
65°	555	598	674	730	744	553
75°	282	336	423	480	494	298
85°	58	107	132	129	129	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1877.7	1877.7	1877.7	1877.7	1877.7
2.5°	1879.4	1879.4	1870.9	1879.4	1881.1
5°	1869.2	1872.6	1864.2	1874.3	1876.0
7.5°	1859.1	1859.1	1854.0	1864.2	1865.8
10°	1840.4	1842.1	1840.4	1852.3	1854.0
12.5°	1816.6	1820.0	1821.7	1833.6	1835.3
15°	1787.8	1792.8	1796.2	1811.5	1814.9
17.5°	1755.5	1760.6	1769.1	1786.1	1789.4
20°	1716.4	1723.2	1733.4	1755.5	1760.6
22.5°	1674.0	1680.8	1697.8	1718.1	1726.6
25°	1624.8	1638.3	1655.3	1682.5	1687.6
27.5°	1575.5	1587.4	1609.5	1638.3	1645.1
30°	1517.8	1536.5	1563.6	1592.5	1599.3
32.5°	1461.8	1480.5	1512.7	1543.3	1551.8
35°	1404.1	1421.0	1455.0	1490.6	1500.8
37.5°	1337.8	1359.9	1397.3	1432.9	1443.1
40°	1268.2	1295.4	1337.8	1375.2	1387.1
42.5°	1202.0	1230.9	1273.3	1314.1	1327.7
45°	1132.4	1159.6	1210.5	1256.3	1266.5
47.5°	1061.1	1091.7	1146.0	1191.8	1208.8
50°	989.8	1022.1	1079.8	1127.3	1137.5
52.5°	918.5	952.4	1013.6	1064.5	1069.6
55°	843.8	881.1	945.7	994.9	1005.1
57.5°	775.9	808.1	877.7	928.7	940.6
60°	701.2	736.8	811.5	859.1	874.4
62.5°	629.9	667.2	745.3	792.9	806.4
65°	555.2	597.6	674.0	730.0	743.6
67.5°	490.7	531.4	612.9	667.2	680.8
70°	416.0	461.8	548.4	604.4	618.0
72.5°	351.4	399.0	485.6	539.9	560.3
75°	281.8	336.2	422.7	480.5	494.1
77.5°	213.9	276.7	365.0	409.2	409.2
80°	152.8	219.0	300.5	320.9	324.3
82.5°	100.2	164.7	222.4	220.7	220.7
85°	57.7	107.0	132.4	129.0	129.0
87.5°	22.1	44.1	47.5	47.5	45.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)