

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: P311687

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CP187-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: P311687
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-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 4975.0 lumens
Efficiency: N/A
Efficacy: 104.5 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

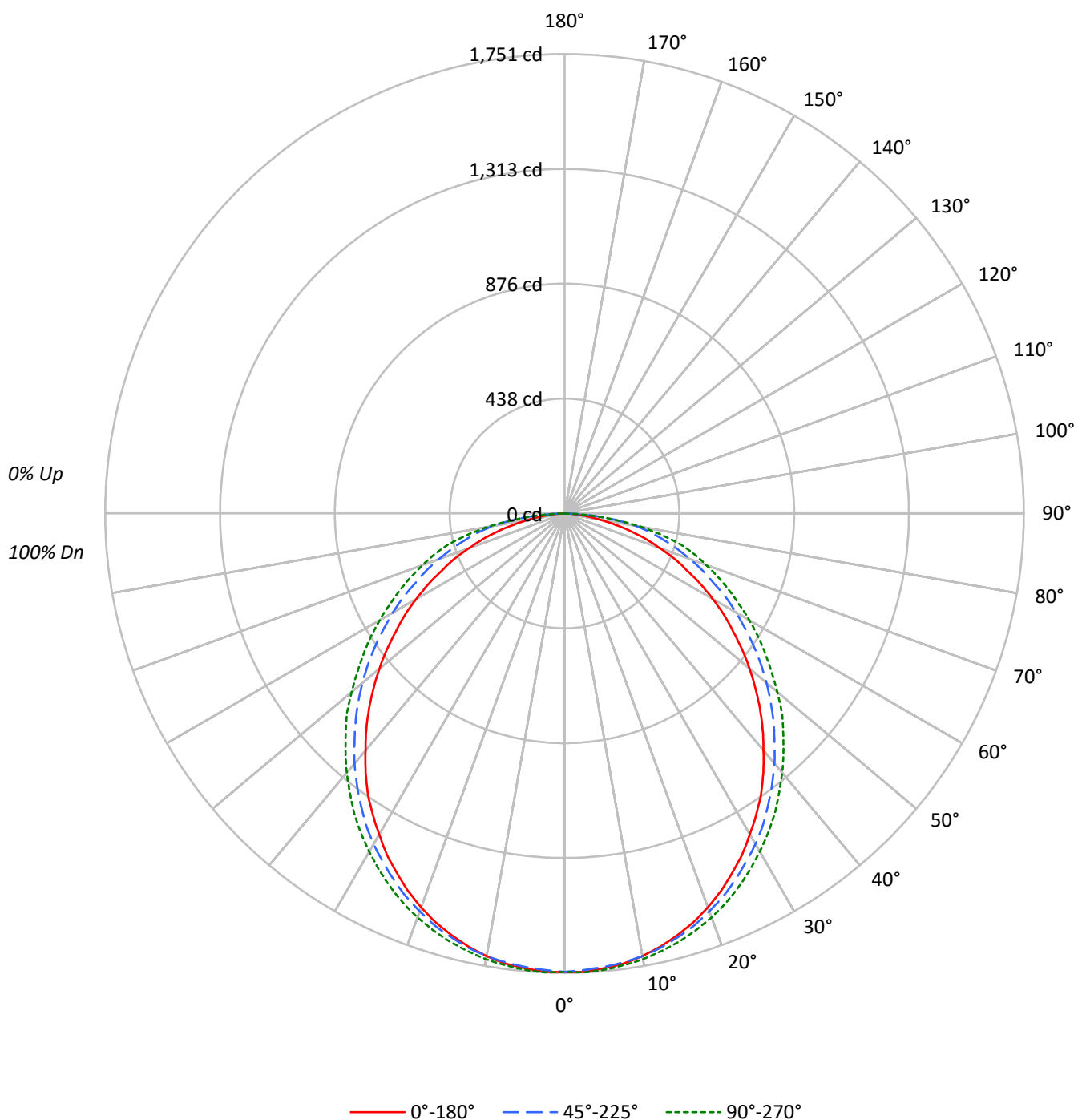
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2352	2352	2352
5°	2350	2343	2358
10°	2340	2340	2358
15°	2318	2329	2353
20°	2288	2310	2346
25°	2245	2287	2332
30°	2195	2261	2313
35°	2147	2224	2294
40°	2073	2187	2268
45°	2006	2144	2243
50°	1928	2104	2216
55°	1842	2065	2194
60°	1756	2033	2190
65°	1645	1997	2203
70°	1523	2008	2263
75°	1364	2046	2391
80°	1102	2167	2338
85°	829	1903	1854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.5	3.3
10°-20°	472.8	9.5
20°-30°	710.7	14.3
30°-40°	846.6	17.0
40°-50°	866.4	17.4
50°-60°	780.0	15.7
60°-70°	612.6	12.3
70°-80°	397.6	8.0
80°-90°	123.0	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°	1348.9	27.1
0°-40°	2195.5	44.1
0°-60°	3841.9	77.2
0°-90°	4975.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4975.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1748	1748	1748	1748	1748	
5°	1740	1743	1735	1745	1746	165
15°	1664	1669	1672	1686	1689	469
25°	1512	1525	1541	1566	1571	697
35°	1307	1323	1354	1388	1397	815
45°	1054	1079	1127	1169	1179	813
55°	785	820	880	926	936	704
65°	517	556	627	680	692	514
75°	262	313	394	447	460	278
85°	54	100	123	120	120	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1747.8	1747.8	1747.8	1747.8	1747.8
2.5°	1749.3	1749.3	1741.4	1749.3	1750.9
5°	1739.8	1743.0	1735.1	1744.6	1746.2
7.5°	1730.4	1730.4	1725.6	1735.1	1736.7
10°	1713.0	1714.6	1713.0	1724.0	1725.6
12.5°	1690.9	1694.0	1695.6	1706.7	1708.2
15°	1664.0	1668.7	1671.9	1686.1	1689.3
17.5°	1634.0	1638.7	1646.6	1662.4	1665.6
20°	1597.6	1603.9	1613.4	1634.0	1638.7
22.5°	1558.1	1564.4	1580.2	1599.2	1607.1
25°	1512.3	1524.9	1540.7	1566.0	1570.8
27.5°	1466.5	1477.5	1498.1	1524.9	1531.3
30°	1412.7	1430.1	1455.4	1482.3	1488.6
32.5°	1360.6	1378.0	1408.0	1436.4	1444.3
35°	1306.9	1322.7	1354.3	1387.5	1396.9
37.5°	1245.2	1265.8	1300.5	1333.7	1343.2
40°	1180.4	1205.7	1245.2	1280.0	1291.1
42.5°	1118.8	1145.7	1185.2	1223.1	1235.8
45°	1054.0	1079.3	1126.7	1169.4	1178.9
47.5°	987.7	1016.1	1066.7	1109.3	1125.1
50°	921.3	951.3	1005.0	1049.3	1058.8
52.5°	854.9	886.5	943.4	990.8	995.6
55°	785.4	820.1	880.2	926.0	935.5
57.5°	722.2	752.2	817.0	864.4	875.5
60°	652.6	685.8	755.4	799.6	813.8
62.5°	586.3	621.0	693.7	738.0	750.6
65°	516.7	556.2	627.4	679.5	692.1
67.5°	456.7	494.6	570.5	621.0	633.7
70°	387.2	429.8	510.4	562.6	575.2
72.5°	327.1	371.4	451.9	502.5	521.5
75°	262.3	312.9	393.5	447.2	459.9
77.5°	199.1	257.6	339.8	380.8	380.8
80°	142.2	203.9	279.7	298.7	301.8
82.5°	93.2	153.3	207.0	205.4	205.4
85°	53.7	99.6	123.3	120.1	120.1
87.5°	20.5	41.1	44.2	44.2	42.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)