

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: P311649

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CP187-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: P311649
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: 24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB 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: 5201.0 lumens
Efficiency: N/A
Efficacy: 117.4 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

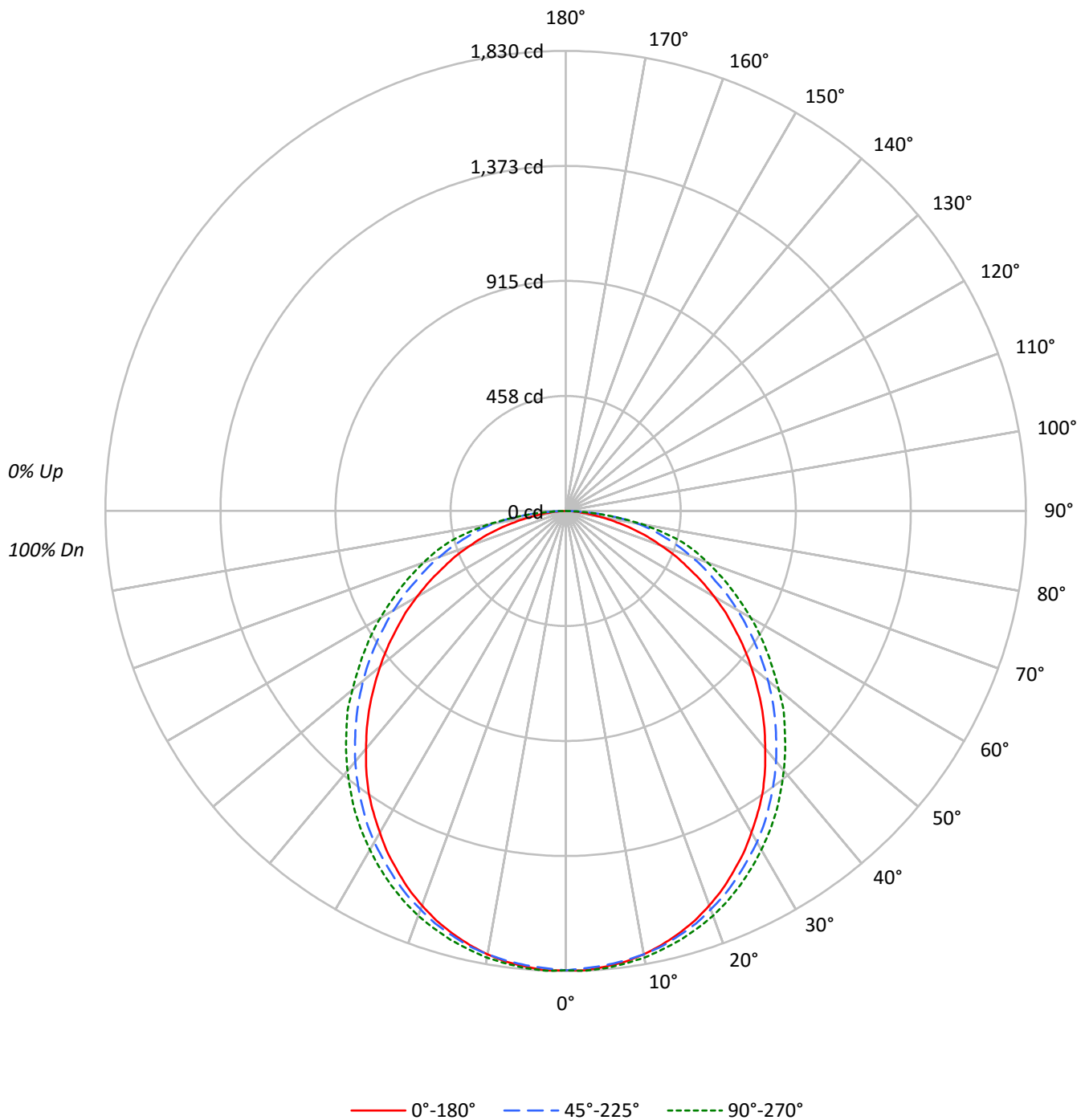
Input Watts (W): 44.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
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°	2458	2458	2458
5°	2457	2450	2466
10°	2447	2447	2465
15°	2423	2435	2460
20°	2391	2415	2453
25°	2347	2391	2438
30°	2295	2364	2418
35°	2244	2326	2399
40°	2168	2286	2371
45°	2097	2241	2345
50°	2016	2199	2317
55°	1926	2159	2294
60°	1836	2125	2289
65°	1720	2088	2304
70°	1592	2099	2365
75°	1425	2139	2499
80°	1152	2266	2445
85°	868	1990	1939



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.0	3.3
10°-20°	494.3	9.5
20°-30°	743.0	14.3
30°-40°	885.0	17.0
40°-50°	905.8	17.4
50°-60°	815.5	15.7
60°-70°	640.4	12.3
70°-80°	415.6	8.0
80°-90°	128.6	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°	1410.2	27.1
0°-40°	2295.2	44.1
0°-60°	4016.4	77.2
0°-90°	5201.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5201.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1827	1827	1827	1827	1827	
5°	1819	1822	1814	1824	1826	173
15°	1740	1744	1748	1763	1766	491
25°	1581	1594	1611	1637	1642	728
35°	1366	1383	1416	1450	1460	852
45°	1102	1128	1178	1222	1232	850
55°	821	857	920	968	978	736
65°	540	582	656	710	724	538
75°	274	327	411	468	481	290
85°	56	104	129	126	126	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1827.1	1827.1	1827.1	1827.1	1827.1
2.5°	1828.8	1828.8	1820.5	1828.8	1830.4
5°	1818.9	1822.2	1813.9	1823.8	1825.5
7.5°	1809.0	1809.0	1804.0	1813.9	1815.6
10°	1790.8	1792.5	1790.8	1802.4	1804.0
12.5°	1767.7	1771.0	1772.6	1784.2	1785.8
15°	1739.6	1744.5	1747.8	1762.7	1766.0
17.5°	1708.2	1713.2	1721.4	1737.9	1741.2
20°	1670.2	1676.8	1686.7	1708.2	1713.2
22.5°	1628.9	1635.5	1652.0	1671.9	1680.1
25°	1581.0	1594.2	1610.7	1637.2	1642.1
27.5°	1533.1	1544.6	1566.1	1594.2	1600.8
30°	1476.9	1495.1	1521.5	1549.6	1556.2
32.5°	1422.4	1440.6	1472.0	1501.7	1510.0
35°	1366.2	1382.7	1415.8	1450.5	1460.4
37.5°	1301.8	1323.3	1359.6	1394.3	1404.2
40°	1234.1	1260.5	1301.8	1338.1	1349.7
42.5°	1169.6	1197.7	1239.0	1278.7	1291.9
45°	1101.9	1128.3	1177.9	1222.5	1232.4
47.5°	1032.5	1062.3	1115.1	1159.7	1176.2
50°	963.1	994.5	1050.7	1096.9	1106.9
52.5°	893.7	926.8	986.3	1035.8	1040.8
55°	821.1	857.4	920.2	968.1	978.0
57.5°	755.0	786.4	854.1	903.7	915.2
60°	682.3	717.0	789.7	835.9	850.8
62.5°	612.9	649.2	725.2	771.5	784.7
65°	540.2	581.5	655.9	710.4	723.6
67.5°	477.4	517.1	596.4	649.2	662.5
70°	404.7	449.4	533.6	588.1	601.3
72.5°	342.0	388.2	472.5	525.3	545.2
75°	274.2	327.1	411.4	467.5	480.7
77.5°	208.2	269.3	355.2	398.1	398.1
80°	148.7	213.1	292.4	312.2	315.5
82.5°	97.5	160.2	216.4	214.8	214.8
85°	56.2	104.1	128.9	125.6	125.6
87.5°	21.5	43.0	46.3	46.3	44.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)