

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: P311619

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CA08-W2A-U-4500K**

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: P311619
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-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 5416.0 lumens
Efficiency: N/A
Efficacy: 123.4 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

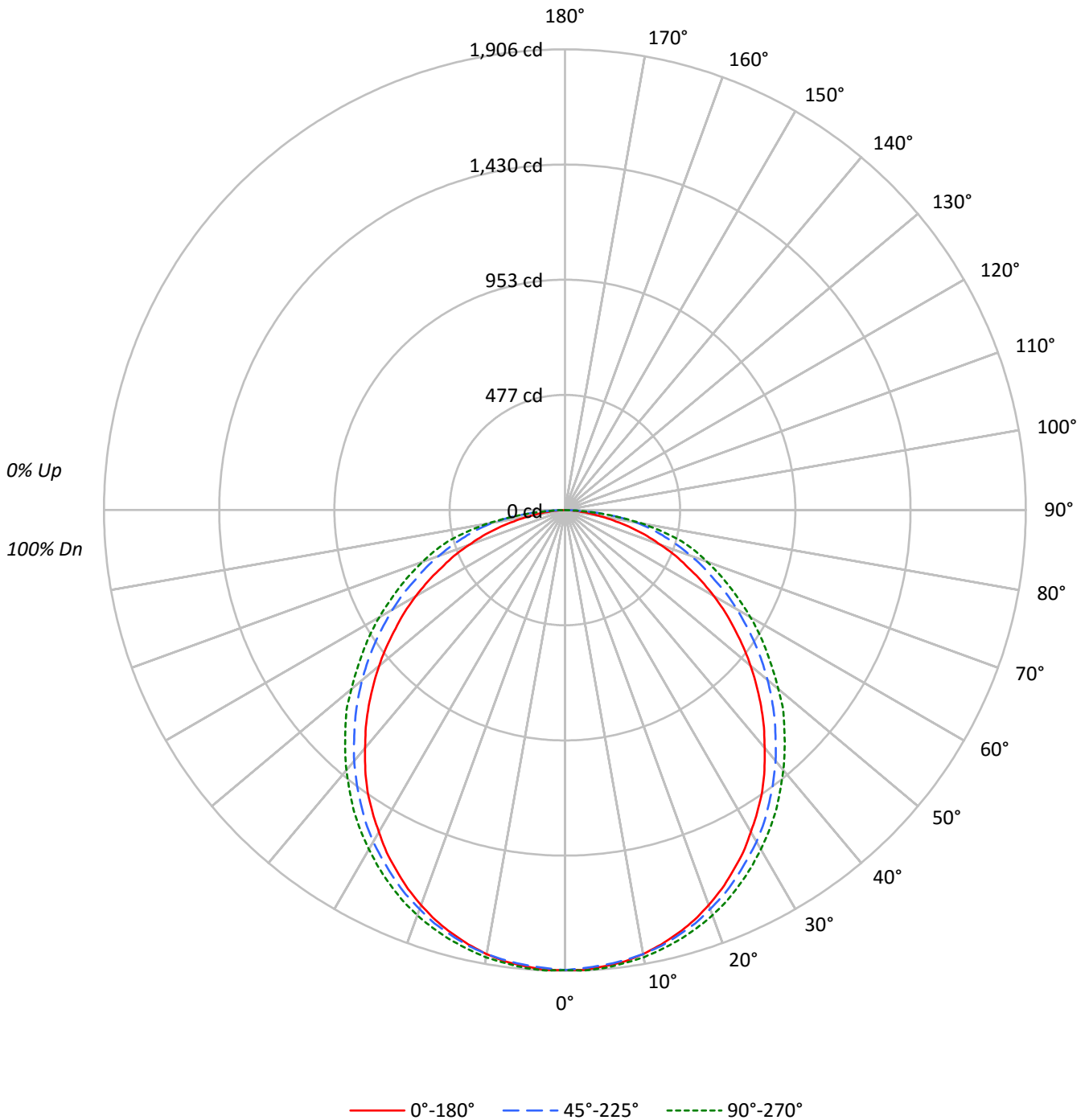
Input Watts (W): 43.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2560	2560	2560
5°	2558	2551	2568
10°	2548	2548	2567
15°	2523	2535	2562
20°	2490	2515	2554
25°	2444	2490	2539
30°	2389	2462	2518
35°	2337	2422	2498
40°	2257	2381	2469
45°	2183	2334	2442
50°	2099	2290	2413
55°	2006	2248	2389
60°	1912	2213	2384
65°	1791	2174	2399
70°	1658	2186	2463
75°	1485	2227	2602
80°	1199	2359	2546
85°	903	2072	2018



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.1	3.3
10°-20°	514.7	9.5
20°-30°	773.7	14.3
30°-40°	921.6	17.0
40°-50°	943.2	17.4
50°-60°	849.2	15.7
60°-70°	666.9	12.3
70°-80°	432.8	8.0
80°-90°	133.9	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°	1468.5	27.1
0°-40°	2390.1	44.1
0°-60°	4182.5	77.2
0°-90°	5416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5416.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1903	1903	1903	1903	1903	
5°	1894	1898	1889	1899	1901	180
15°	1812	1817	1820	1836	1839	511
25°	1646	1660	1677	1705	1710	758
35°	1423	1440	1474	1510	1521	888
45°	1148	1175	1227	1273	1283	885
55°	855	893	958	1008	1018	767
65°	562	606	683	740	754	560
75°	286	341	428	487	501	302
85°	58	108	134	131	131	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1902.7	1902.7	1902.7	1902.7	1902.7
2.5°	1904.4	1904.4	1895.8	1904.4	1906.1
5°	1894.1	1897.5	1888.9	1899.2	1901.0
7.5°	1883.8	1883.8	1878.6	1888.9	1890.6
10°	1864.8	1866.5	1864.8	1876.9	1878.6
12.5°	1840.7	1844.2	1845.9	1857.9	1859.7
15°	1811.5	1816.7	1820.1	1835.6	1839.0
17.5°	1778.8	1784.0	1792.6	1809.8	1813.2
20°	1739.2	1746.1	1756.4	1778.8	1784.0
22.5°	1696.2	1703.1	1720.3	1741.0	1749.6
25°	1646.3	1660.1	1677.3	1704.8	1710.0
27.5°	1596.5	1608.5	1630.9	1660.1	1667.0
30°	1538.0	1556.9	1584.4	1613.7	1620.5
32.5°	1481.2	1500.1	1532.8	1563.8	1572.4
35°	1422.7	1439.9	1474.3	1510.4	1520.8
37.5°	1355.6	1378.0	1415.8	1452.0	1462.3
40°	1285.1	1312.6	1355.6	1393.5	1405.5
42.5°	1218.0	1247.2	1290.2	1331.5	1345.3
45°	1147.5	1175.0	1226.6	1273.0	1283.4
47.5°	1075.2	1106.2	1161.2	1207.7	1224.9
50°	1002.9	1035.6	1094.1	1142.3	1152.6
52.5°	930.7	965.1	1027.0	1078.6	1083.8
55°	855.0	892.8	958.2	1008.1	1018.4
57.5°	786.2	818.9	889.4	941.0	953.1
60°	710.5	746.6	822.3	870.5	886.0
62.5°	638.2	676.1	755.2	803.4	817.2
65°	562.5	605.6	683.0	739.7	753.5
67.5°	497.2	538.5	621.0	676.1	689.8
70°	421.5	467.9	555.7	612.4	626.2
72.5°	356.1	404.3	492.0	547.1	567.7
75°	285.6	340.6	428.4	486.9	500.6
77.5°	216.8	280.4	369.9	414.6	414.6
80°	154.8	221.9	304.5	325.1	328.6
82.5°	101.5	166.9	225.4	223.6	223.6
85°	58.5	108.4	134.2	130.7	130.7
87.5°	22.4	44.7	48.2	48.2	46.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)