

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: P311615

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CA08-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: P311615
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-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" 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

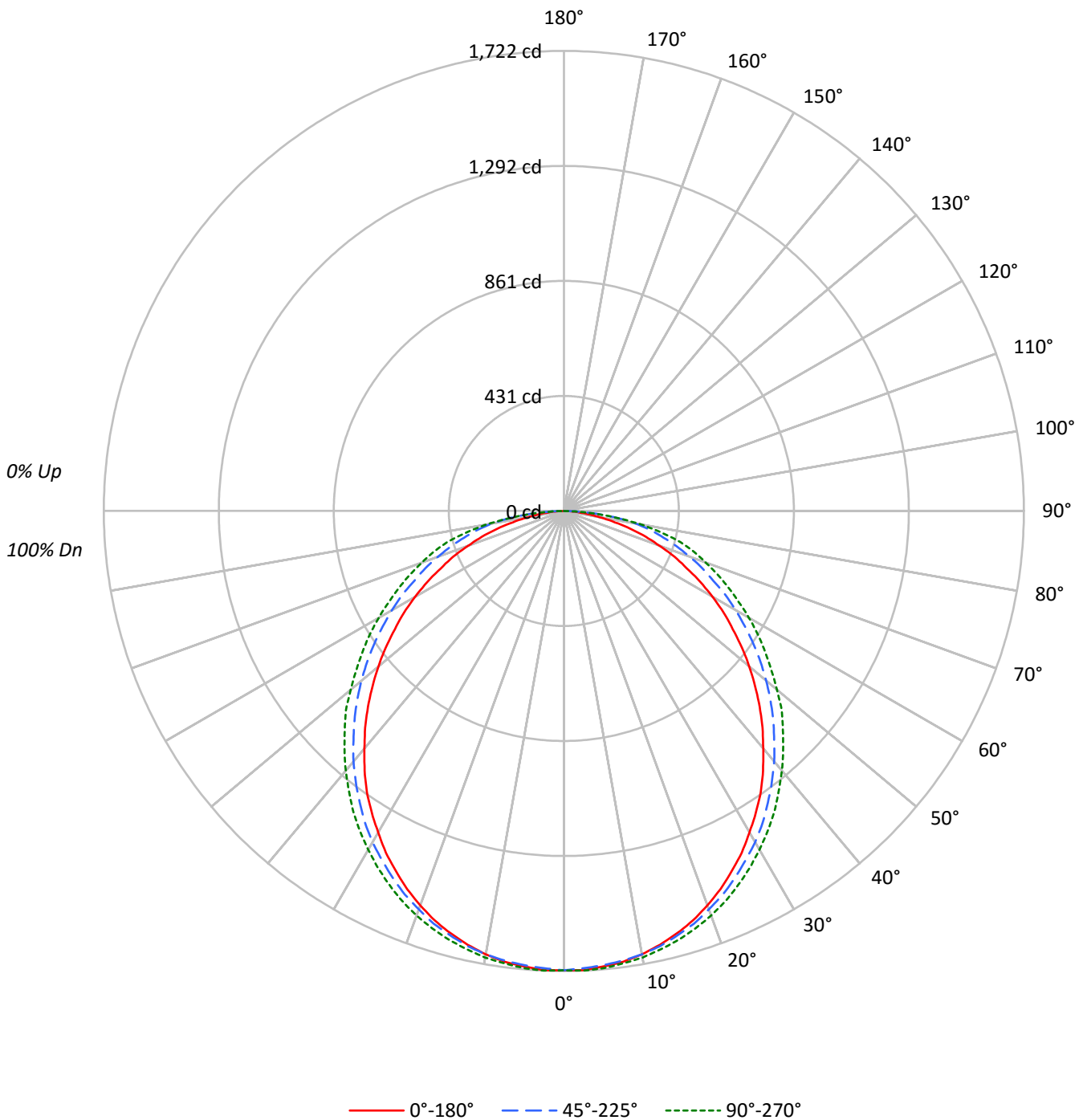
Lumens per Lamp: N/A
Luminaire Lumens: 4893.0 lumens
Efficiency: N/A
Efficacy: 113.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.1
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°	2313	2313	2313
5°	2311	2305	2320
10°	2302	2302	2319
15°	2280	2290	2314
20°	2250	2272	2308
25°	2208	2250	2294
30°	2159	2224	2275
35°	2111	2188	2257
40°	2039	2151	2230
45°	1972	2109	2206
50°	1897	2069	2180
55°	1812	2031	2158
60°	1727	1999	2154
65°	1618	1964	2167
70°	1498	1975	2225
75°	1341	2012	2351
80°	1084	2132	2300
85°	815	1871	1823



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.7	3.3
10°-20°	465.0	9.5
20°-30°	699.0	14.3
30°-40°	832.6	17.0
40°-50°	852.1	17.4
50°-60°	767.2	15.7
60°-70°	602.5	12.3
70°-80°	391.0	8.0
80°-90°	120.9	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°	1326.7	27.1
0°-40°	2159.3	44.1
0°-60°	3778.6	77.2
0°-90°	4893.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4893.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1719	1719	1719	1719	1719	
5°	1711	1714	1706	1716	1717	163
15°	1637	1641	1644	1658	1661	461
25°	1487	1500	1515	1540	1545	685
35°	1285	1301	1332	1365	1374	802
45°	1037	1062	1108	1150	1159	799
55°	772	807	866	911	920	692
65°	508	547	617	668	681	506
75°	258	308	387	440	452	273
85°	53	98	121	118	118	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1718.9	1718.9	1718.9	1718.9	1718.9
2.5°	1720.5	1720.5	1712.7	1720.5	1722.1
5°	1711.2	1714.3	1706.5	1715.8	1717.4
7.5°	1701.8	1701.8	1697.2	1706.5	1708.1
10°	1684.8	1686.3	1684.8	1695.6	1697.2
12.5°	1663.0	1666.1	1667.7	1678.5	1680.1
15°	1636.6	1641.2	1644.3	1658.3	1661.4
17.5°	1607.0	1611.7	1619.5	1635.0	1638.1
20°	1571.3	1577.5	1586.8	1607.0	1611.7
22.5°	1532.4	1538.7	1554.2	1572.8	1580.6
25°	1487.4	1499.8	1515.3	1540.2	1544.9
27.5°	1442.3	1453.2	1473.4	1499.8	1506.0
30°	1389.5	1406.5	1431.4	1457.8	1464.1
32.5°	1338.2	1355.3	1384.8	1412.8	1420.5
35°	1285.3	1300.9	1331.9	1364.6	1373.9
37.5°	1224.7	1244.9	1279.1	1311.7	1321.1
40°	1161.0	1185.9	1224.7	1258.9	1269.8
42.5°	1100.4	1126.8	1165.6	1202.9	1215.4
45°	1036.6	1061.5	1108.1	1150.1	1159.4
47.5°	971.4	999.3	1049.1	1091.0	1106.6
50°	906.1	935.6	988.5	1032.0	1041.3
52.5°	840.8	871.9	927.9	974.5	979.1
55°	772.4	806.6	865.7	910.8	920.1
57.5°	710.3	739.8	803.5	850.1	861.0
60°	641.9	674.5	742.9	786.4	800.4
62.5°	576.6	610.8	682.3	725.8	738.2
65°	508.2	547.1	617.0	668.3	680.7
67.5°	449.2	486.5	561.1	610.8	623.2
70°	380.8	422.7	502.0	553.3	565.7
72.5°	321.7	365.2	444.5	494.2	512.9
75°	258.0	307.7	387.0	439.8	452.3
77.5°	195.8	253.3	334.2	374.6	374.6
80°	139.9	200.5	275.1	293.7	296.9
82.5°	91.7	150.8	203.6	202.0	202.0
85°	52.8	97.9	121.2	118.1	118.1
87.5°	20.2	40.4	43.5	43.5	42.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)