

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: P311644

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-S-CP187-W2A-U-3500K**

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: P311644
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3500K 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: 4873.0 lumens
Efficiency: N/A
Efficacy: 112.5 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

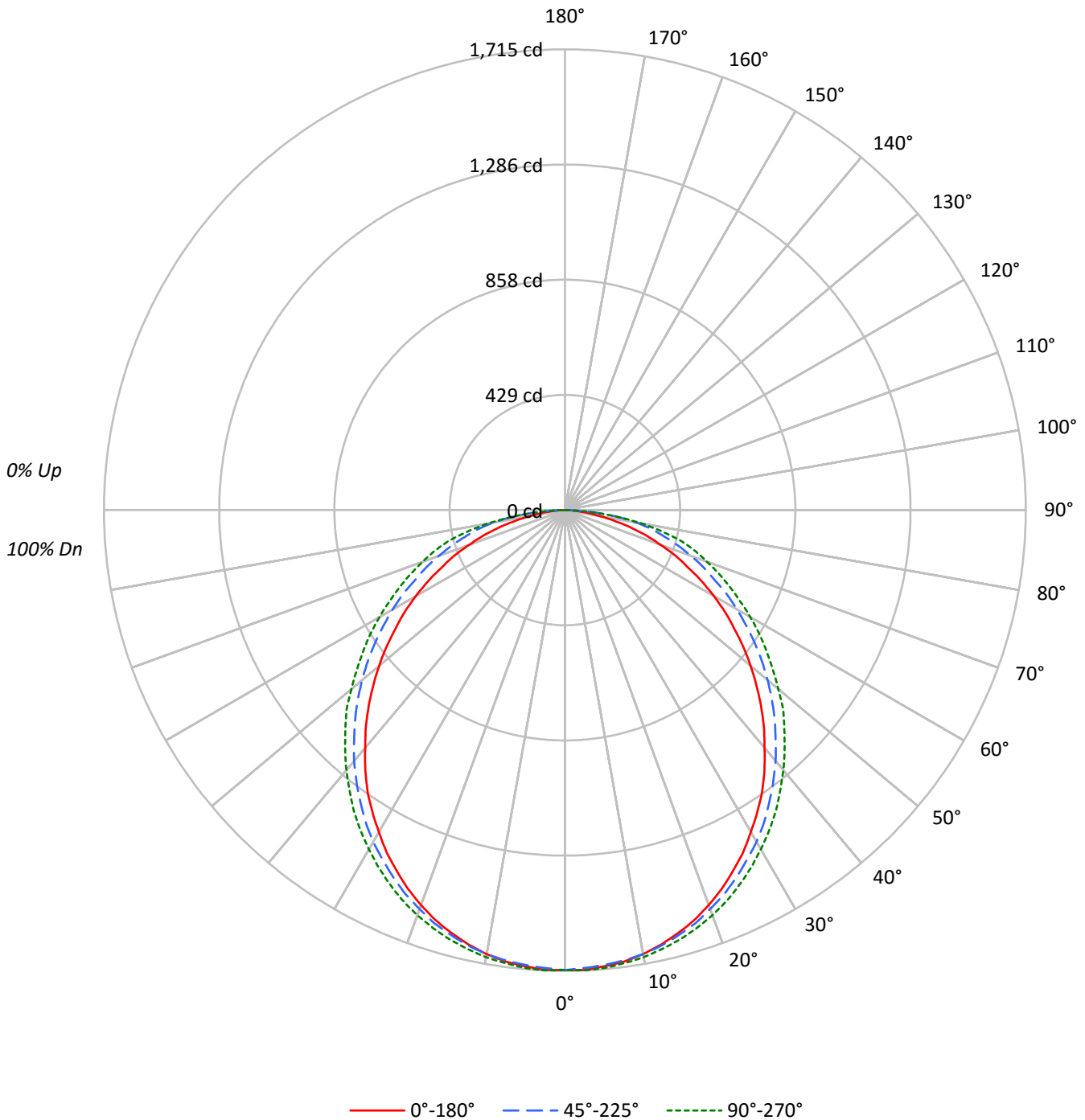
Input Watts (W): 43.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2303	2303	2303
5°	2302	2295	2310
10°	2292	2292	2309
15°	2270	2281	2305
20°	2241	2263	2298
25°	2199	2240	2284
30°	2150	2215	2265
35°	2103	2179	2247
40°	2031	2142	2221
45°	1964	2100	2197
50°	1889	2061	2171
55°	1805	2022	2149
60°	1720	1991	2145
65°	1611	1956	2159
70°	1492	1967	2216
75°	1336	2004	2341
80°	1079	2123	2290
85°	812	1863	1815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.1	3.3
10°-20°	463.1	9.5
20°-30°	696.1	14.3
30°-40°	829.2	17.0
40°-50°	848.6	17.4
50°-60°	764.0	15.7
60°-70°	600.0	12.3
70°-80°	389.4	8.0
80°-90°	120.4	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°	1321.3	27.1
0°-40°	2150.5	44.1
0°-60°	3763.1	77.2
0°-90°	4873.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4873.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1712	1712	1712	1712	1712	
5°	1704	1707	1700	1709	1710	162
15°	1630	1634	1638	1652	1655	460
25°	1481	1494	1509	1534	1539	682
35°	1280	1296	1326	1359	1368	799
45°	1032	1057	1104	1145	1155	796
55°	769	803	862	907	916	690
65°	506	545	614	666	678	504
75°	257	306	385	438	450	272
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°	1711.9	1711.9	1711.9	1711.9	1711.9
2.5°	1713.5	1713.5	1705.7	1713.5	1715.0
5°	1704.2	1707.3	1699.5	1708.8	1710.4
7.5°	1694.9	1694.9	1690.2	1699.5	1701.1
10°	1677.9	1679.4	1677.9	1688.7	1690.2
12.5°	1656.2	1659.3	1660.8	1671.7	1673.2
15°	1629.9	1634.5	1637.6	1651.6	1654.6
17.5°	1600.5	1605.1	1612.9	1628.3	1631.4
20°	1564.9	1571.1	1580.3	1600.5	1605.1
22.5°	1526.2	1532.4	1547.8	1566.4	1574.2
25°	1481.3	1493.7	1509.1	1533.9	1538.6
27.5°	1436.4	1447.2	1467.4	1493.7	1499.9
30°	1383.8	1400.8	1425.6	1451.9	1458.1
32.5°	1332.7	1349.7	1379.1	1407.0	1414.7
35°	1280.1	1295.5	1326.5	1359.0	1368.3
37.5°	1219.7	1239.8	1273.9	1306.4	1315.7
40°	1156.2	1181.0	1219.7	1253.8	1264.6
42.5°	1095.9	1122.2	1160.9	1198.0	1210.4
45°	1032.4	1057.2	1103.6	1145.4	1154.7
47.5°	967.4	995.3	1044.8	1086.6	1102.1
50°	902.4	931.8	984.4	1027.8	1037.1
52.5°	837.4	868.3	924.1	970.5	975.1
55°	769.3	803.3	862.1	907.0	916.3
57.5°	707.4	736.8	800.2	846.7	857.5
60°	639.3	671.8	739.9	783.2	797.1
62.5°	574.3	608.3	679.5	722.8	735.2
65°	506.1	544.8	614.5	665.6	678.0
67.5°	447.3	484.5	558.8	608.3	620.7
70°	379.2	421.0	500.0	551.0	563.4
72.5°	320.4	363.7	442.7	492.2	510.8
75°	256.9	306.5	385.4	438.0	450.4
77.5°	195.0	252.3	332.8	373.0	373.0
80°	139.3	199.7	274.0	292.5	295.6
82.5°	91.3	150.1	202.8	201.2	201.2
85°	52.6	97.5	120.7	117.6	117.6
87.5°	20.1	40.2	43.3	43.3	41.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)