

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: P310980

Luminaire Tested: **24FCZ2-55HE-UNV-L82765-CP250-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: P310980
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB 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: 4784.0 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

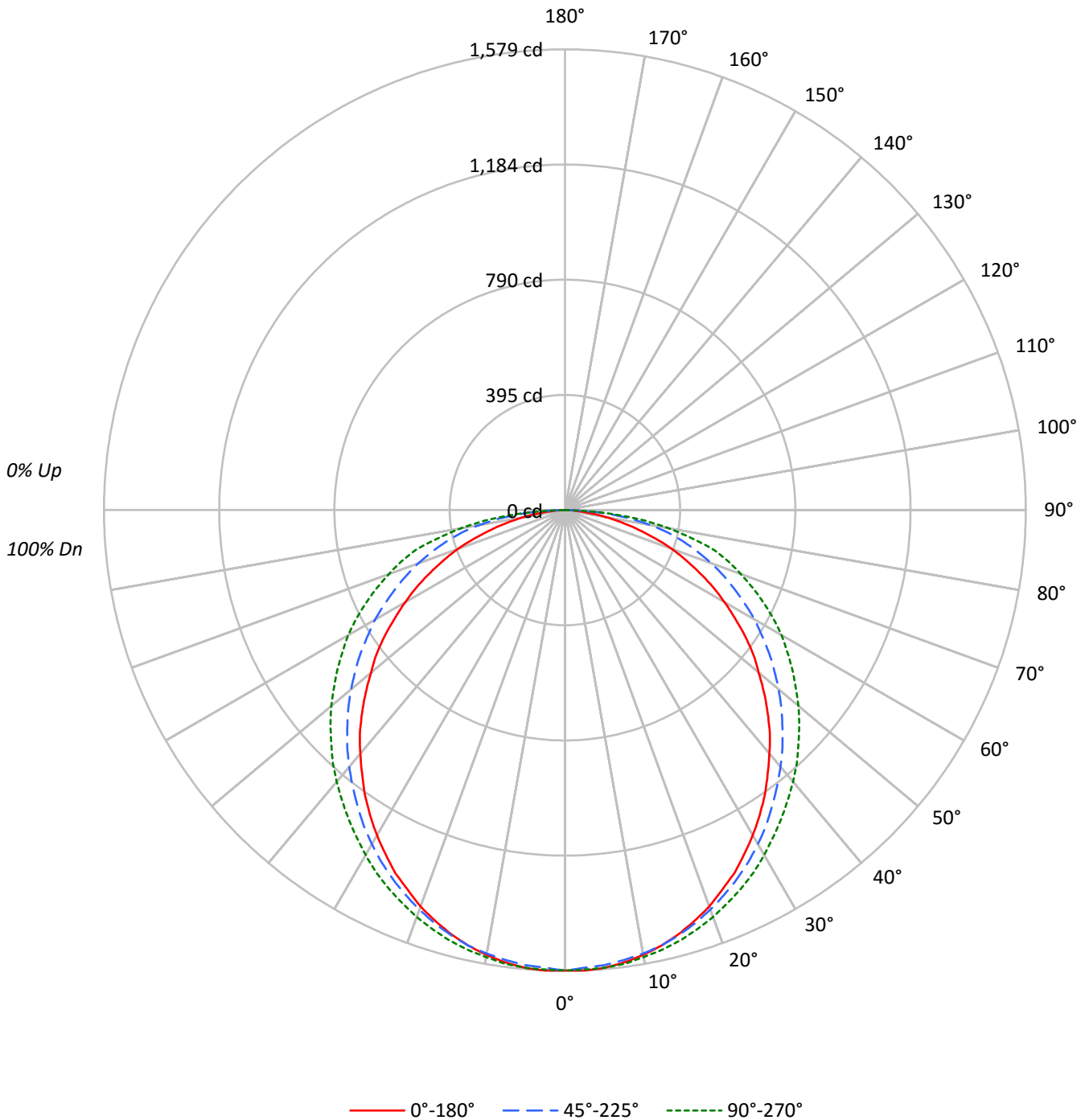
Input Watts (W): 43.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2123	2123	2123
5°	2127	2114	2127
10°	2114	2108	2125
15°	2096	2100	2127
20°	2070	2086	2125
25°	2038	2071	2123
30°	2000	2054	2121
35°	1961	2034	2122
40°	1915	2018	2135
45°	1870	2005	2153
50°	1814	2000	2186
55°	1768	2003	2230
60°	1700	2020	2306
65°	1622	2041	2390
70°	1536	2104	2522
75°	1370	2195	2756
80°	1168	2325	2817
85°	834	2303	2695



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.3	3.1
10°-20°	426.9	8.9
20°-30°	644.9	13.5
30°-40°	777.2	16.2
40°-50°	815.9	17.1
50°-60°	763.3	16.0
60°-70°	630.4	13.2
70°-80°	429.6	9.0
80°-90°	146.5	3.1
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°	1221.1	25.5
0°-40°	1998.3	41.8
0°-60°	3577.6	74.8
0°-90°	4784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4784.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1578	1578	1578	1578	1578	
5°	1574	1573	1565	1574	1574	149
15°	1505	1506	1508	1524	1527	424
25°	1373	1379	1395	1422	1430	632
35°	1194	1206	1238	1279	1292	746
45°	982	1003	1054	1111	1132	758
55°	754	784	854	924	951	673
65°	510	552	641	722	751	505
75°	264	324	422	502	530	281
85°	54	106	149	168	175	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1577.7	1577.7	1577.7	1577.7	1577.7
2.5°	1579.3	1577.7	1569.8	1577.7	1576.1
5°	1574.5	1573.0	1565.0	1574.5	1574.5
7.5°	1563.4	1563.4	1555.5	1566.6	1568.2
10°	1547.6	1547.6	1542.8	1555.5	1555.5
12.5°	1528.5	1528.5	1528.5	1541.2	1542.8
15°	1504.7	1506.3	1507.9	1523.8	1526.9
17.5°	1476.1	1479.3	1484.1	1503.1	1506.3
20°	1446.0	1449.2	1457.1	1479.3	1484.1
22.5°	1407.9	1415.8	1426.9	1452.3	1457.1
25°	1373.0	1379.3	1395.2	1422.2	1430.1
27.5°	1330.1	1339.6	1360.3	1388.8	1400.0
30°	1287.3	1296.8	1322.2	1355.5	1365.0
32.5°	1241.2	1255.5	1282.5	1317.4	1328.5
35°	1193.6	1206.3	1238.1	1279.3	1292.0
37.5°	1141.2	1158.7	1193.6	1238.1	1253.9
40°	1090.4	1109.5	1149.2	1196.8	1215.8
42.5°	1039.6	1058.7	1103.1	1157.1	1176.1
45°	982.5	1003.1	1053.9	1111.1	1131.7
47.5°	925.4	950.8	1006.3	1066.6	1088.9
50°	866.6	895.2	955.5	1019.0	1044.4
52.5°	814.3	841.2	904.7	973.0	996.8
55°	753.9	784.1	853.9	923.8	950.8
57.5°	692.0	725.4	800.0	876.2	903.1
60°	631.7	668.2	750.8	827.0	857.1
62.5°	573.0	609.5	695.2	774.6	804.7
65°	509.5	552.4	641.2	722.2	750.8
67.5°	449.2	495.2	588.9	668.2	696.8
70°	390.5	434.9	534.9	612.7	641.2
72.5°	327.0	377.8	477.8	558.7	588.9
75°	263.5	323.8	422.2	501.6	530.1
77.5°	204.8	266.7	365.1	430.1	444.4
80°	150.8	214.3	300.0	346.0	363.5
82.5°	96.8	160.3	228.6	261.9	276.2
85°	54.0	106.3	149.2	168.2	174.6
87.5°	22.2	46.0	60.3	68.3	68.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)