

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: P311486

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA08-W2A-U-5500K**

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: P311486
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: 24FCZ2-45-UNV-L82765-S-CA08-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 5500K 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

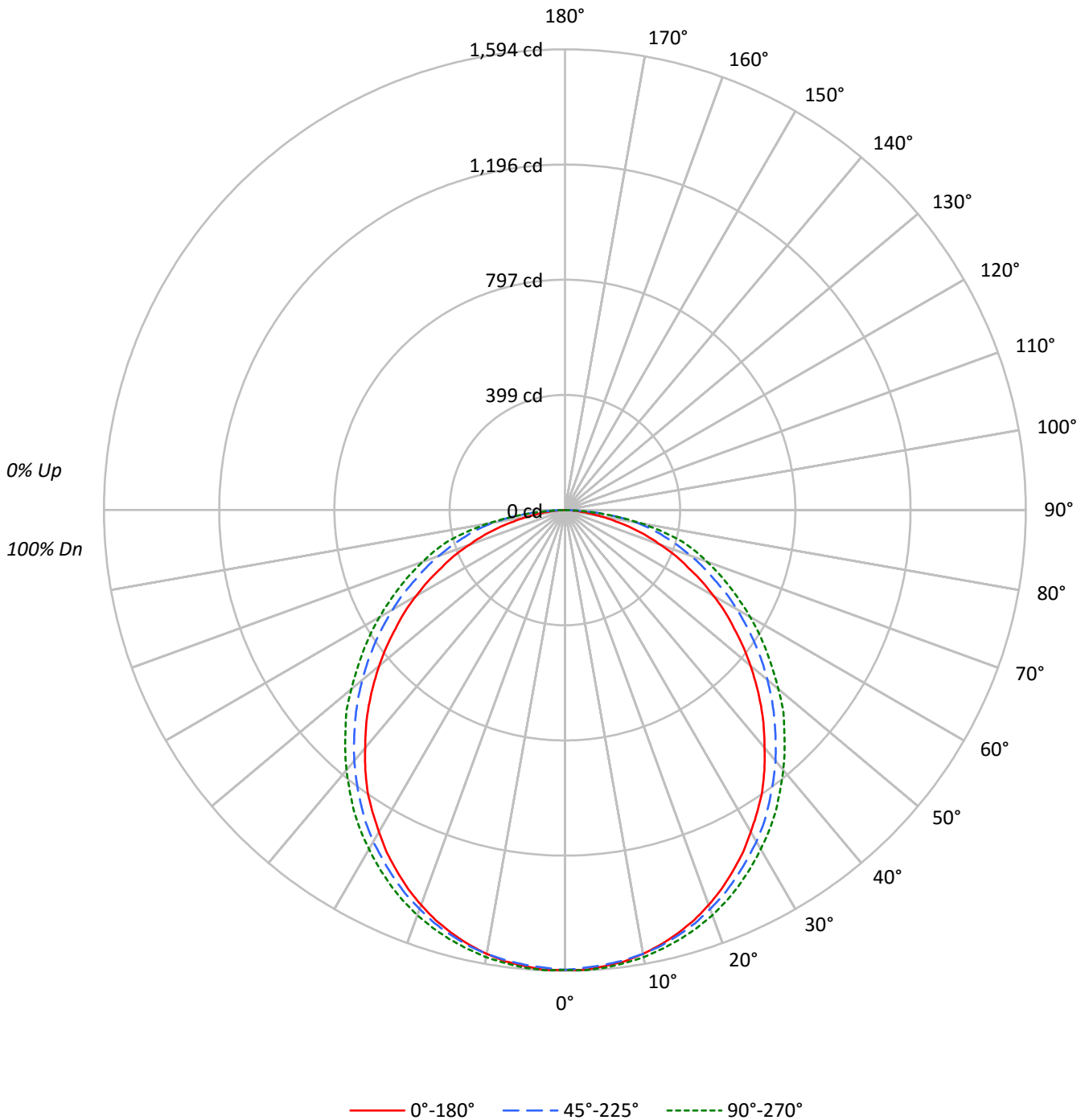
Lumens per Lamp: N/A
Luminaire Lumens: 4528.0 lumens
Efficiency: N/A
Efficacy: 117.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 38.7
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°	2140	2140	2140
5°	2139	2133	2147
10°	2130	2130	2146
15°	2110	2120	2142
20°	2082	2103	2136
25°	2043	2082	2122
30°	1998	2058	2105
35°	1954	2025	2088
40°	1887	1991	2064
45°	1825	1951	2042
50°	1755	1915	2017
55°	1677	1879	1997
60°	1598	1850	1993
65°	1497	1818	2006
70°	1386	1828	2059
75°	1241	1862	2176
80°	1003	1973	2128
85°	755	1732	1687



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.6	3.3
10°-20°	430.3	9.5
20°-30°	646.8	14.3
30°-40°	770.5	17.0
40°-50°	788.6	17.4
50°-60°	709.9	15.7
60°-70°	557.5	12.3
70°-80°	361.8	8.0
80°-90°	111.9	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°	1227.7	27.1
0°-40°	1998.2	44.1
0°-60°	3496.7	77.2
0°-90°	4528.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4528.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1591	1591	1591	1591	1591	
5°	1584	1586	1579	1588	1589	150
15°	1514	1519	1522	1535	1538	427
25°	1376	1388	1402	1425	1430	634
35°	1189	1204	1233	1263	1271	742
45°	959	982	1026	1064	1073	740
55°	715	746	801	843	852	641
65°	470	506	571	618	630	468
75°	239	285	358	407	418	253
85°	49	91	112	109	109	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1590.7	1590.7	1590.7	1590.7	1590.7
2.5°	1592.2	1592.2	1585.0	1592.2	1593.6
5°	1583.5	1586.4	1579.2	1587.8	1589.3
7.5°	1574.9	1574.9	1570.6	1579.2	1580.6
10°	1559.1	1560.5	1559.1	1569.1	1570.6
12.5°	1538.9	1541.8	1543.3	1553.3	1554.8
15°	1514.5	1518.8	1521.7	1534.6	1537.5
17.5°	1487.2	1491.5	1498.7	1513.0	1515.9
20°	1454.1	1459.8	1468.5	1487.2	1491.5
22.5°	1418.1	1423.9	1438.3	1455.5	1462.7
25°	1376.4	1387.9	1402.3	1425.3	1429.6
27.5°	1334.7	1344.8	1363.5	1387.9	1393.7
30°	1285.8	1301.6	1324.6	1349.1	1354.8
32.5°	1238.3	1254.2	1281.5	1307.4	1314.6
35°	1189.4	1203.8	1232.6	1262.8	1271.4
37.5°	1133.3	1152.0	1183.7	1213.9	1222.5
40°	1074.4	1097.4	1133.3	1165.0	1175.1
42.5°	1018.3	1042.7	1078.7	1113.2	1124.7
45°	959.3	982.3	1025.5	1064.3	1072.9
47.5°	898.9	924.8	970.8	1009.7	1024.0
50°	838.5	865.8	914.7	955.0	963.6
52.5°	778.1	806.9	858.6	901.8	906.1
55°	714.8	746.5	801.1	842.8	851.5
57.5°	657.3	684.6	743.6	786.7	796.8
60°	594.0	624.2	687.5	727.8	740.7
62.5°	533.6	565.2	631.4	671.7	683.2
65°	470.3	506.3	571.0	618.5	630.0
67.5°	415.7	450.2	519.2	565.2	576.7
70°	352.4	391.2	464.6	512.0	523.5
72.5°	297.7	338.0	411.3	457.4	474.6
75°	238.8	284.8	358.1	407.0	418.5
77.5°	181.2	234.4	309.2	346.6	346.6
80°	129.4	185.5	254.6	271.8	274.7
82.5°	84.9	139.5	188.4	187.0	187.0
85°	48.9	90.6	112.2	109.3	109.3
87.5°	18.7	37.4	40.3	40.3	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)