

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: P311482

Luminaire Tested: **24FCZ2-45-UNV-L82765-S-CA08-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: P311482
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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

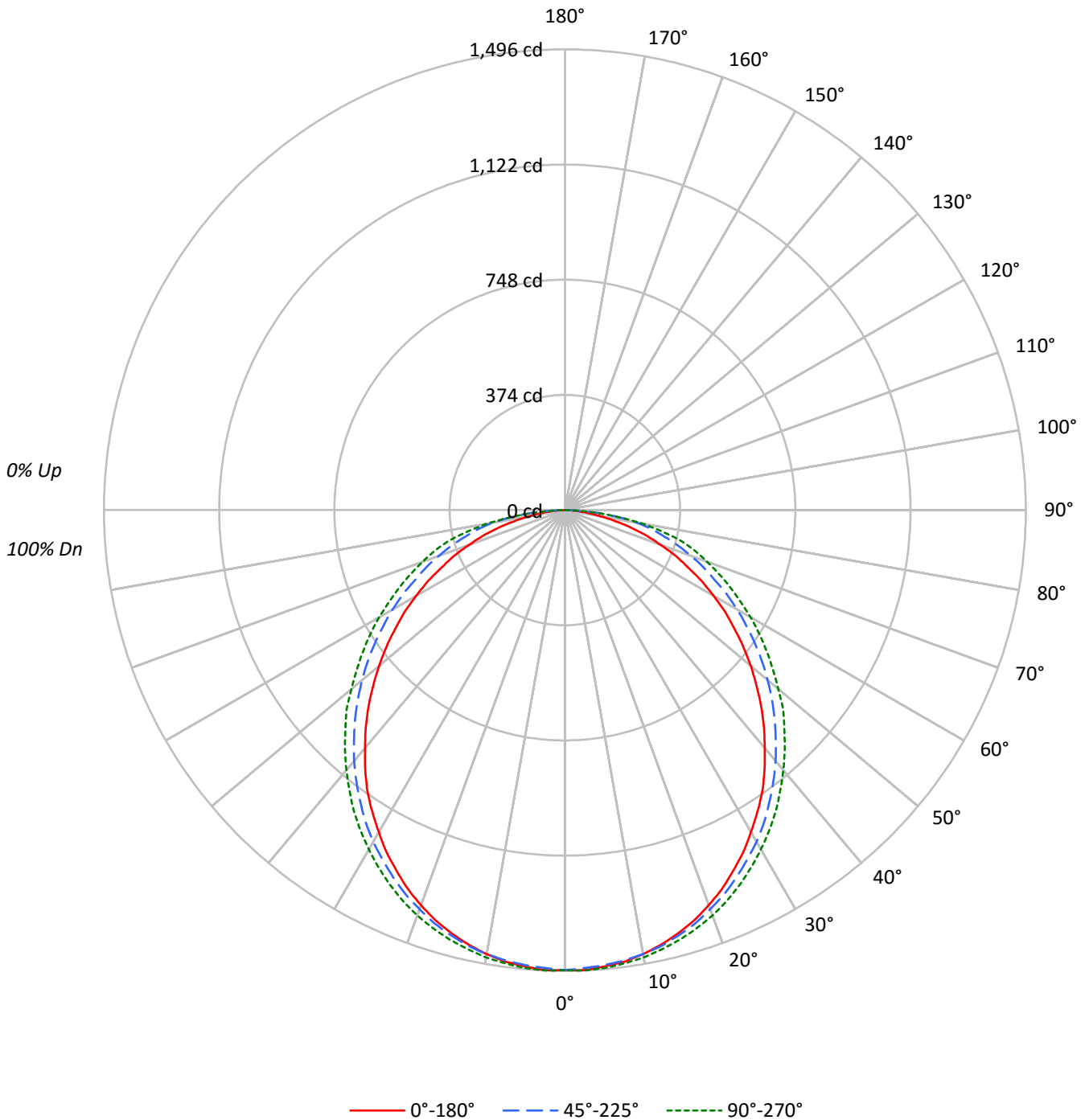
Lumens per Lamp: N/A
Luminaire Lumens: 4252.0 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 37.8
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°	2010	2010	2010
5°	2008	2003	2016
10°	2000	2000	2015
15°	1981	1990	2011
20°	1955	1975	2005
25°	1919	1955	1993
30°	1876	1933	1977
35°	1835	1901	1961
40°	1772	1869	1938
45°	1714	1832	1917
50°	1648	1798	1894
55°	1574	1765	1876
60°	1501	1737	1872
65°	1406	1707	1883
70°	1302	1716	1934
75°	1166	1748	2043
80°	942	1853	1999
85°	709	1626	1584



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.4	3.3
10°-20°	404.1	9.5
20°-30°	607.4	14.3
30°-40°	723.5	17.0
40°-50°	740.5	17.4
50°-60°	666.7	15.7
60°-70°	523.5	12.3
70°-80°	339.8	8.0
80°-90°	105.1	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°	1152.9	27.1
0°-40°	1876.4	44.1
0°-60°	3283.6	77.2
0°-90°	4252.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4252.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1494	1494	1494	1494	1494	
5°	1487	1490	1483	1491	1492	141
15°	1422	1426	1429	1441	1444	401
25°	1292	1303	1317	1338	1342	595
35°	1117	1130	1158	1186	1194	697
45°	901	922	963	999	1008	695
55°	671	701	752	791	800	602
65°	442	475	536	581	592	440
75°	224	267	336	382	393	237
85°	46	85	105	103	103	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1493.8	1493.8	1493.8	1493.8	1493.8
2.5°	1495.1	1495.1	1488.4	1495.1	1496.5
5°	1487.0	1489.7	1483.0	1491.1	1492.4
7.5°	1478.9	1478.9	1474.8	1483.0	1484.3
10°	1464.0	1465.4	1464.0	1473.5	1474.8
12.5°	1445.1	1447.8	1449.2	1458.6	1460.0
15°	1422.2	1426.2	1428.9	1441.1	1443.8
17.5°	1396.5	1400.6	1407.3	1420.8	1423.5
20°	1365.4	1370.9	1379.0	1396.5	1400.6
22.5°	1331.7	1337.1	1350.6	1366.8	1373.6
25°	1292.5	1303.3	1316.8	1338.4	1342.5
27.5°	1253.3	1262.8	1280.4	1303.3	1308.7
30°	1207.4	1222.3	1243.9	1266.9	1272.3
32.5°	1162.9	1177.7	1203.4	1227.7	1234.4
35°	1116.9	1130.4	1157.5	1185.8	1193.9
37.5°	1064.3	1081.8	1111.5	1139.9	1148.0
40°	1008.9	1030.5	1064.3	1094.0	1103.4
42.5°	956.2	979.2	1012.9	1045.4	1056.2
45°	900.8	922.5	963.0	999.4	1007.5
47.5°	844.1	868.4	911.6	948.1	961.6
50°	787.4	813.1	859.0	896.8	904.9
52.5°	730.7	757.7	806.3	846.8	850.9
55°	671.2	701.0	752.3	791.4	799.6
57.5°	617.2	642.9	698.3	738.8	748.2
60°	557.8	586.2	645.6	683.4	695.6
62.5°	501.1	530.8	592.9	630.7	641.5
65°	441.6	475.4	536.2	580.8	591.6
67.5°	390.3	422.7	487.6	530.8	541.6
70°	330.9	367.4	436.2	480.8	491.6
72.5°	279.6	317.4	386.3	429.5	445.7
75°	224.2	267.4	336.3	382.2	393.0
77.5°	170.2	220.1	290.4	325.5	325.5
80°	121.6	174.2	239.1	255.3	258.0
82.5°	79.7	131.0	176.9	175.6	175.6
85°	45.9	85.1	105.3	102.6	102.6
87.5°	17.6	35.1	37.8	37.8	36.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)