

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: P313968

Luminaire Tested: **24FCZ2-45-UNV-L83050-CA08-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: P313968
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: 24FCZ2-45-UNV-L83050-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 4392.0 lumens
Efficiency: N/A
Efficacy: 111.5 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

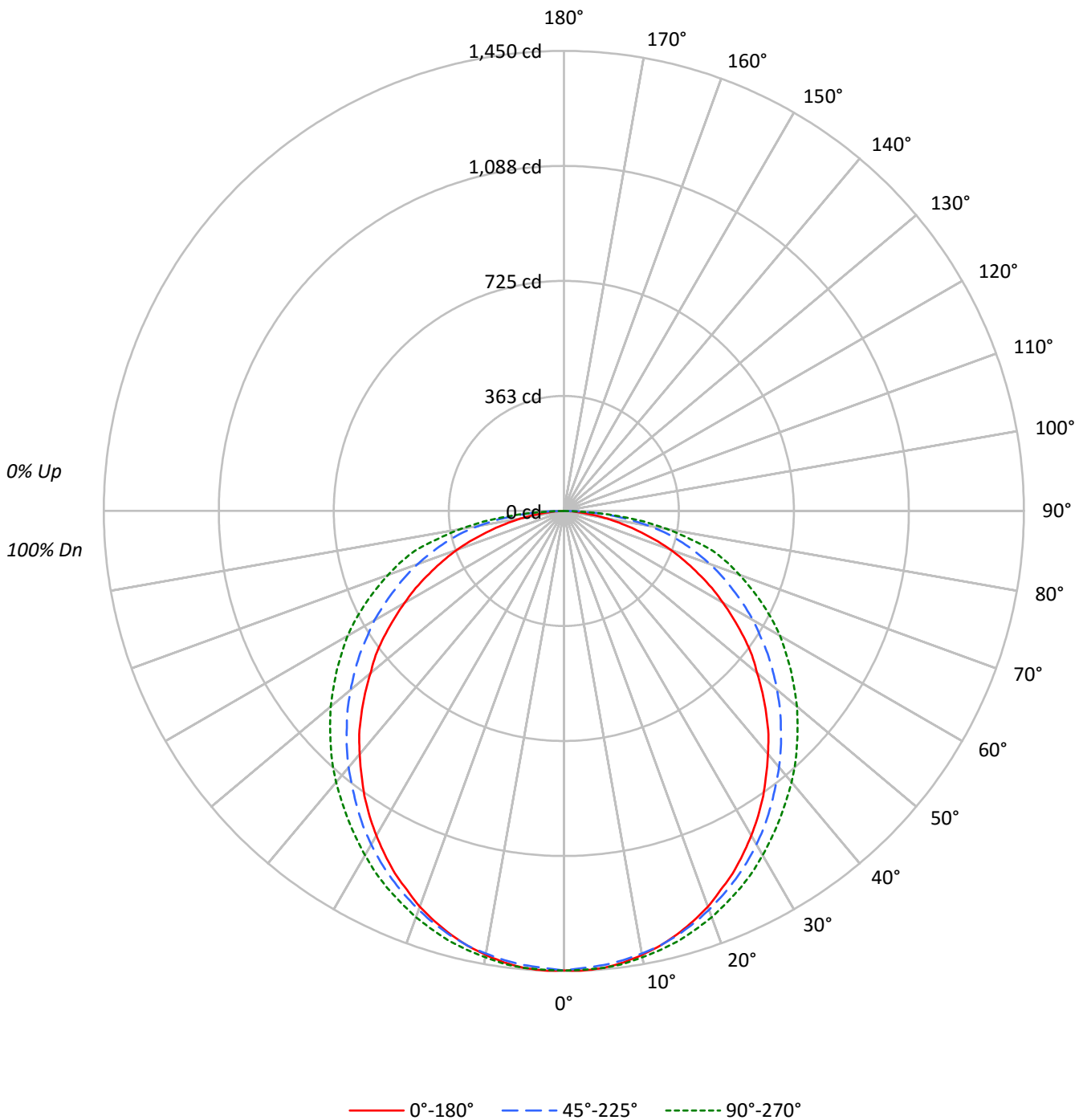
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1949	1949	1949
5°	1952	1941	1952
10°	1941	1935	1951
15°	1924	1928	1953
20°	1901	1915	1951
25°	1871	1902	1949
30°	1836	1886	1947
35°	1800	1867	1948
40°	1758	1853	1961
45°	1716	1841	1977
50°	1665	1836	2007
55°	1624	1839	2048
60°	1561	1855	2118
65°	1489	1874	2194
70°	1410	1932	2316
75°	1258	2015	2530
80°	1072	2134	2586
85°	764	2115	2475



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.1	3.1
10°-20°	392.0	8.9
20°-30°	592.0	13.5
30°-40°	713.5	16.2
40°-50°	749.1	17.1
50°-60°	700.8	16.0
60°-70°	578.7	13.2
70°-80°	394.4	9.0
80°-90°	134.5	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°	1121.1	25.5
0°-40°	1834.6	41.8
0°-60°	3284.4	74.8
0°-90°	4392.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4392.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1448	1448	1448	1448	1448	
5°	1446	1444	1437	1446	1446	137
15°	1381	1383	1384	1399	1402	389
25°	1260	1266	1281	1306	1313	580
35°	1096	1108	1137	1174	1186	685
45°	902	921	968	1020	1039	696
55°	692	720	784	848	873	618
65°	468	507	589	663	689	464
75°	242	297	388	460	487	258
85°	50	98	137	154	160	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1448.4	1448.4	1448.4	1448.4	1448.4
2.5°	1449.9	1448.4	1441.2	1448.4	1447.0
5°	1445.5	1444.1	1436.8	1445.5	1445.5
7.5°	1435.3	1435.3	1428.0	1438.2	1439.7
10°	1420.8	1420.8	1416.4	1428.0	1428.0
12.5°	1403.3	1403.3	1403.3	1414.9	1416.4
15°	1381.4	1382.9	1384.3	1398.9	1401.8
17.5°	1355.2	1358.1	1362.5	1380.0	1382.9
20°	1327.5	1330.4	1337.7	1358.1	1362.5
22.5°	1292.5	1299.8	1310.0	1333.3	1337.7
25°	1260.5	1266.3	1280.9	1305.6	1312.9
27.5°	1221.1	1229.9	1248.8	1275.0	1285.2
30°	1181.8	1190.5	1213.8	1244.4	1253.2
32.5°	1139.5	1152.6	1177.4	1209.5	1219.7
35°	1095.8	1107.5	1136.6	1174.5	1186.1
37.5°	1047.7	1063.7	1095.8	1136.6	1151.2
40°	1001.1	1018.6	1055.0	1098.7	1116.2
42.5°	954.5	971.9	1012.7	1062.3	1079.8
45°	902.0	920.9	967.6	1020.0	1039.0
47.5°	849.5	872.9	923.9	979.2	999.6
50°	795.6	821.9	877.2	935.5	958.8
52.5°	747.5	772.3	830.6	893.3	915.1
55°	692.2	719.9	784.0	848.1	872.9
57.5°	635.3	665.9	734.4	804.4	829.1
60°	580.0	613.5	689.2	759.2	786.9
62.5°	526.0	559.6	638.2	711.1	738.8
65°	467.8	507.1	588.7	663.0	689.2
67.5°	412.4	454.6	540.6	613.5	639.7
70°	358.5	399.3	491.1	562.5	588.7
72.5°	300.2	346.8	438.6	512.9	540.6
75°	241.9	297.3	387.6	460.5	486.7
77.5°	188.0	244.8	335.2	394.9	408.0
80°	138.4	196.7	275.4	317.7	333.7
82.5°	88.9	147.2	209.8	240.4	253.6
85°	49.5	97.6	137.0	154.5	160.3
87.5°	20.4	42.3	55.4	62.7	62.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)