

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: P314018

Luminaire Tested: **24FCZ2-50-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: P314018
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: 24FCZ2-50-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: 4848.0 lumens
Efficiency: N/A
Efficacy: 108.2 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

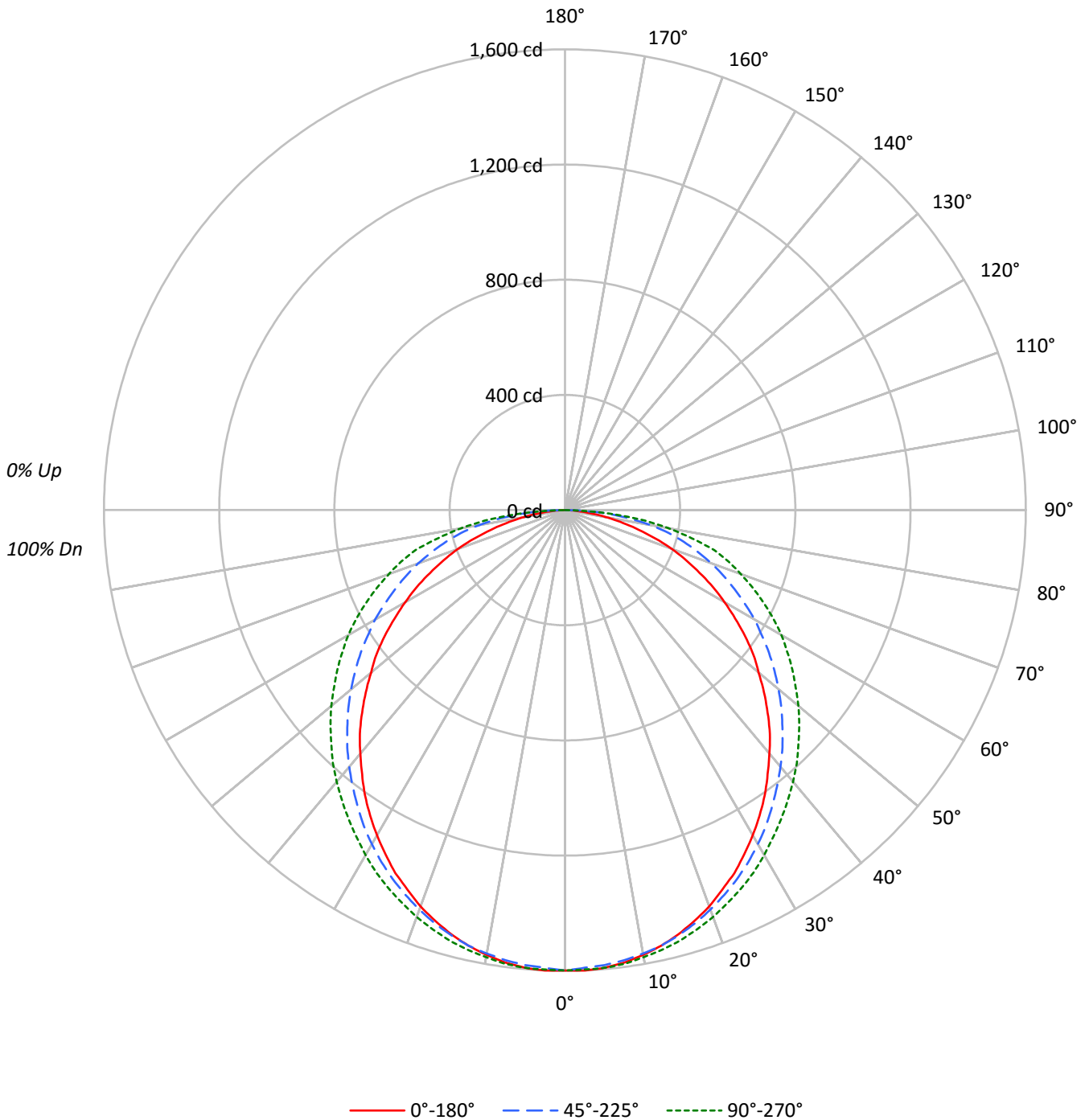
Input Watts (W): 44.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2151	2151	2151
5°	2155	2142	2155
10°	2143	2136	2154
15°	2124	2129	2155
20°	2098	2114	2153
25°	2066	2099	2151
30°	2027	2082	2149
35°	1987	2061	2151
40°	1941	2045	2164
45°	1894	2032	2182
50°	1838	2027	2215
55°	1792	2030	2260
60°	1723	2047	2337
65°	1644	2069	2422
70°	1557	2133	2556
75°	1388	2224	2793
80°	1184	2356	2854
85°	844	2334	2731



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.3	3.1
10°-20°	432.7	8.9
20°-30°	653.5	13.5
30°-40°	787.6	16.2
40°-50°	826.8	17.1
50°-60°	773.6	16.0
60°-70°	638.8	13.2
70°-80°	435.3	9.0
80°-90°	148.5	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°	1237.4	25.5
0°-40°	2025.0	41.8
0°-60°	3625.4	74.8
0°-90°	4848.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4848.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1599	1599	1599	1599	1599	
5°	1596	1594	1586	1596	1596	151
15°	1525	1526	1528	1544	1547	430
25°	1391	1398	1414	1441	1449	640
35°	1210	1222	1255	1296	1309	756
45°	996	1017	1068	1126	1147	768
55°	764	795	865	936	964	682
65°	516	560	650	732	761	512
75°	267	328	428	508	537	285
85°	55	108	151	170	177	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1598.8	1598.8	1598.8	1598.8	1598.8
2.5°	1600.4	1598.8	1590.8	1598.8	1597.2
5°	1595.6	1594.0	1586.0	1595.6	1595.6
7.5°	1584.4	1584.4	1576.3	1587.6	1589.2
10°	1568.3	1568.3	1563.4	1576.3	1576.3
12.5°	1549.0	1549.0	1549.0	1561.8	1563.4
15°	1524.8	1526.4	1528.1	1544.1	1547.4
17.5°	1495.9	1499.1	1503.9	1523.2	1526.4
20°	1465.3	1468.5	1476.6	1499.1	1503.9
22.5°	1426.7	1434.8	1446.0	1471.8	1476.6
25°	1391.3	1397.8	1413.9	1441.2	1449.2
27.5°	1347.9	1357.6	1378.5	1407.4	1418.7
30°	1304.5	1314.1	1339.9	1373.6	1383.3
32.5°	1257.8	1272.3	1299.7	1335.0	1346.3
35°	1209.6	1222.4	1254.6	1296.4	1309.3
37.5°	1156.5	1174.2	1209.6	1254.6	1270.7
40°	1105.0	1124.3	1164.5	1212.8	1232.1
42.5°	1053.6	1072.9	1117.9	1172.6	1191.9
45°	995.6	1016.6	1068.0	1125.9	1146.8
47.5°	937.7	963.5	1019.8	1080.9	1103.4
50°	878.2	907.2	968.3	1032.6	1058.4
52.5°	825.1	852.5	916.8	986.0	1010.1
55°	764.0	794.6	865.4	936.1	963.5
57.5°	701.3	735.1	810.7	887.9	915.2
60°	640.2	677.2	760.8	838.0	868.6
62.5°	580.7	617.7	704.5	784.9	815.5
65°	516.3	559.8	649.8	731.9	760.8
67.5°	455.2	501.8	596.7	677.2	706.1
70°	395.7	440.7	542.1	620.9	649.8
72.5°	331.3	382.8	484.2	566.2	596.7
75°	267.0	328.1	427.9	508.3	537.2
77.5°	207.5	270.2	370.0	435.9	450.4
80°	152.8	217.1	304.0	350.6	368.3
82.5°	98.1	162.5	231.6	265.4	279.9
85°	54.7	107.8	151.2	170.5	176.9
87.5°	22.5	46.6	61.1	69.2	69.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)