

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: P313991

Luminaire Tested: **24FCZ2-50HE-UNV-L83050-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: P313991
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: 24FCZ2-50HE-UNV-L83050-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 4595.0 lumens
Efficiency: N/A
Efficacy: 119.7 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

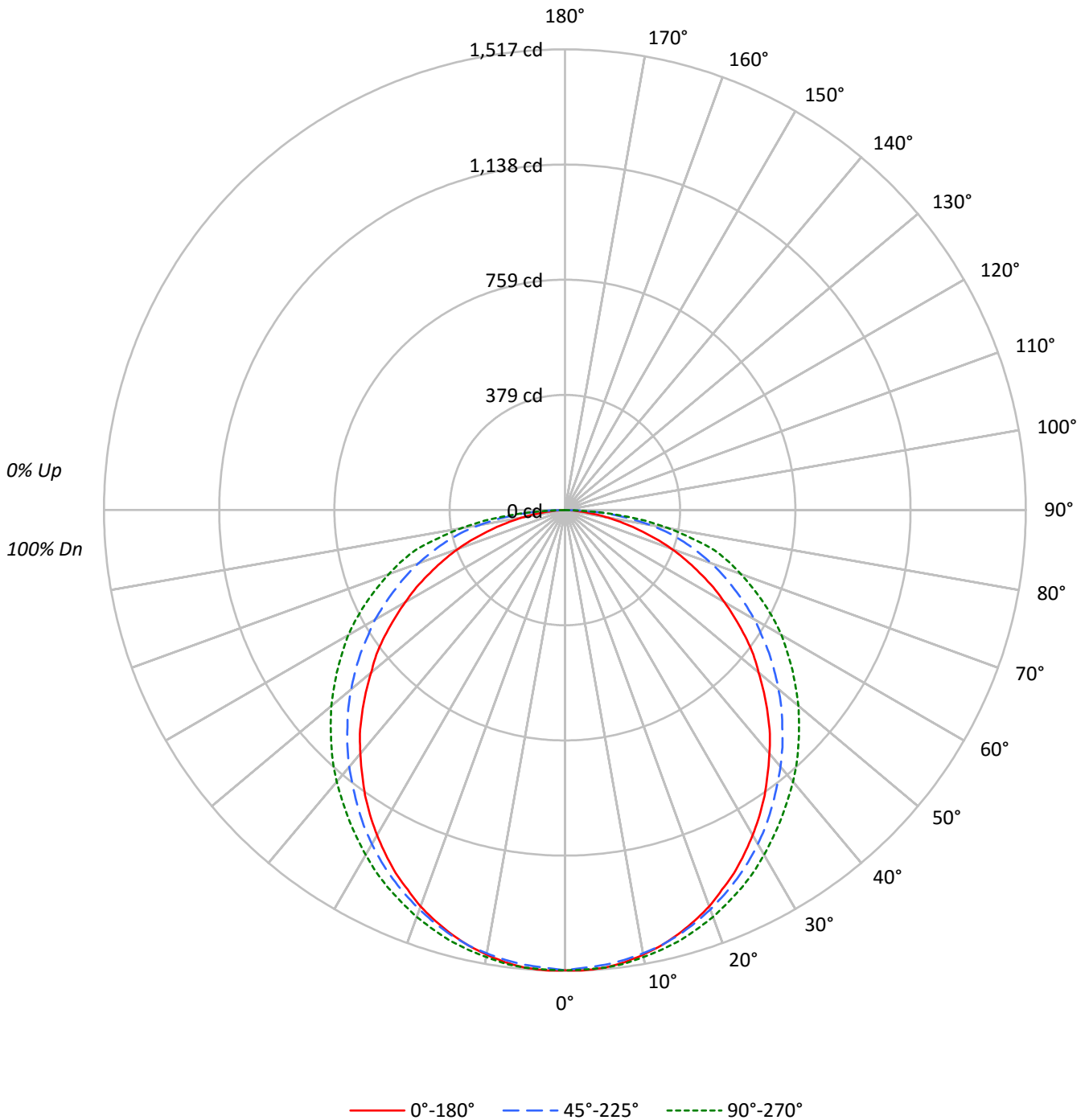
Input Watts (W): 38.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2039	2039	2039
5°	2043	2030	2043
10°	2031	2025	2041
15°	2013	2017	2043
20°	1989	2004	2041
25°	1958	1989	2039
30°	1921	1973	2037
35°	1883	1953	2038
40°	1840	1939	2051
45°	1796	1926	2068
50°	1742	1921	2100
55°	1699	1924	2142
60°	1633	1940	2215
65°	1558	1961	2296
70°	1475	2021	2423
75°	1316	2108	2647
80°	1122	2232	2705
85°	800	2212	2589



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.4	3.1
10°-20°	410.1	8.9
20°-30°	619.4	13.5
30°-40°	746.5	16.2
40°-50°	783.7	17.1
50°-60°	733.2	16.0
60°-70°	605.5	13.2
70°-80°	412.6	9.0
80°-90°	140.7	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°	1172.9	25.5
0°-40°	1919.4	41.8
0°-60°	3436.2	74.8
0°-90°	4595.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4595.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1515	1515	1515	1515	1515	
5°	1512	1511	1503	1512	1512	144
15°	1445	1447	1448	1464	1467	407
25°	1319	1325	1340	1366	1374	607
35°	1146	1159	1189	1229	1241	716
45°	944	964	1012	1067	1087	728
55°	724	753	820	887	913	646
65°	489	530	616	694	721	485
75°	253	311	406	482	509	270
85°	52	102	143	162	168	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1515.4	1515.4	1515.4	1515.4	1515.4
2.5°	1516.9	1515.4	1507.8	1515.4	1513.9
5°	1512.3	1510.8	1503.2	1512.3	1512.3
7.5°	1501.7	1501.7	1494.0	1504.7	1506.2
10°	1486.4	1486.4	1481.9	1494.0	1494.0
12.5°	1468.1	1468.1	1468.1	1480.3	1481.9
15°	1445.3	1446.8	1448.3	1463.6	1466.6
17.5°	1417.8	1420.9	1425.4	1443.7	1446.8
20°	1388.9	1391.9	1399.5	1420.9	1425.4
22.5°	1352.3	1359.9	1370.6	1395.0	1399.5
25°	1318.7	1324.8	1340.1	1366.0	1373.6
27.5°	1277.6	1286.7	1306.5	1334.0	1344.6
30°	1236.4	1245.5	1269.9	1302.0	1311.1
32.5°	1192.2	1205.9	1231.8	1265.4	1276.0
35°	1146.5	1158.6	1189.1	1228.8	1241.0
37.5°	1096.1	1112.9	1146.5	1189.1	1204.4
40°	1047.4	1065.7	1103.8	1149.5	1167.8
42.5°	998.6	1016.9	1059.6	1111.4	1129.7
45°	943.7	963.5	1012.3	1067.2	1087.0
47.5°	888.8	913.2	966.6	1024.5	1045.8
50°	832.4	859.8	917.8	978.8	1003.1
52.5°	782.1	808.0	869.0	934.5	957.4
55°	724.2	753.1	820.2	887.3	913.2
57.5°	664.7	696.7	768.4	841.5	867.5
60°	606.8	641.8	721.1	794.3	823.3
62.5°	550.4	585.4	667.7	744.0	772.9
65°	489.4	530.5	615.9	693.7	721.1
67.5°	431.4	475.7	565.6	641.8	669.3
70°	375.0	417.7	513.8	588.5	615.9
72.5°	314.1	362.8	458.9	536.6	565.6
75°	253.1	311.0	405.5	481.8	509.2
77.5°	196.7	256.1	350.6	413.1	426.9
80°	144.8	205.8	288.1	332.3	349.1
82.5°	93.0	154.0	219.5	251.5	265.3
85°	51.8	102.1	143.3	161.6	167.7
87.5°	21.3	44.2	57.9	65.6	65.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)