

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: P311525

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-S-CA08-W2A-U-2700K**

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: P311525
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: 24FCZ2-50HE-UNV-L82765-S-CA08-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 4431.0 lumens
Efficiency: N/A
Efficacy: 115.4 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

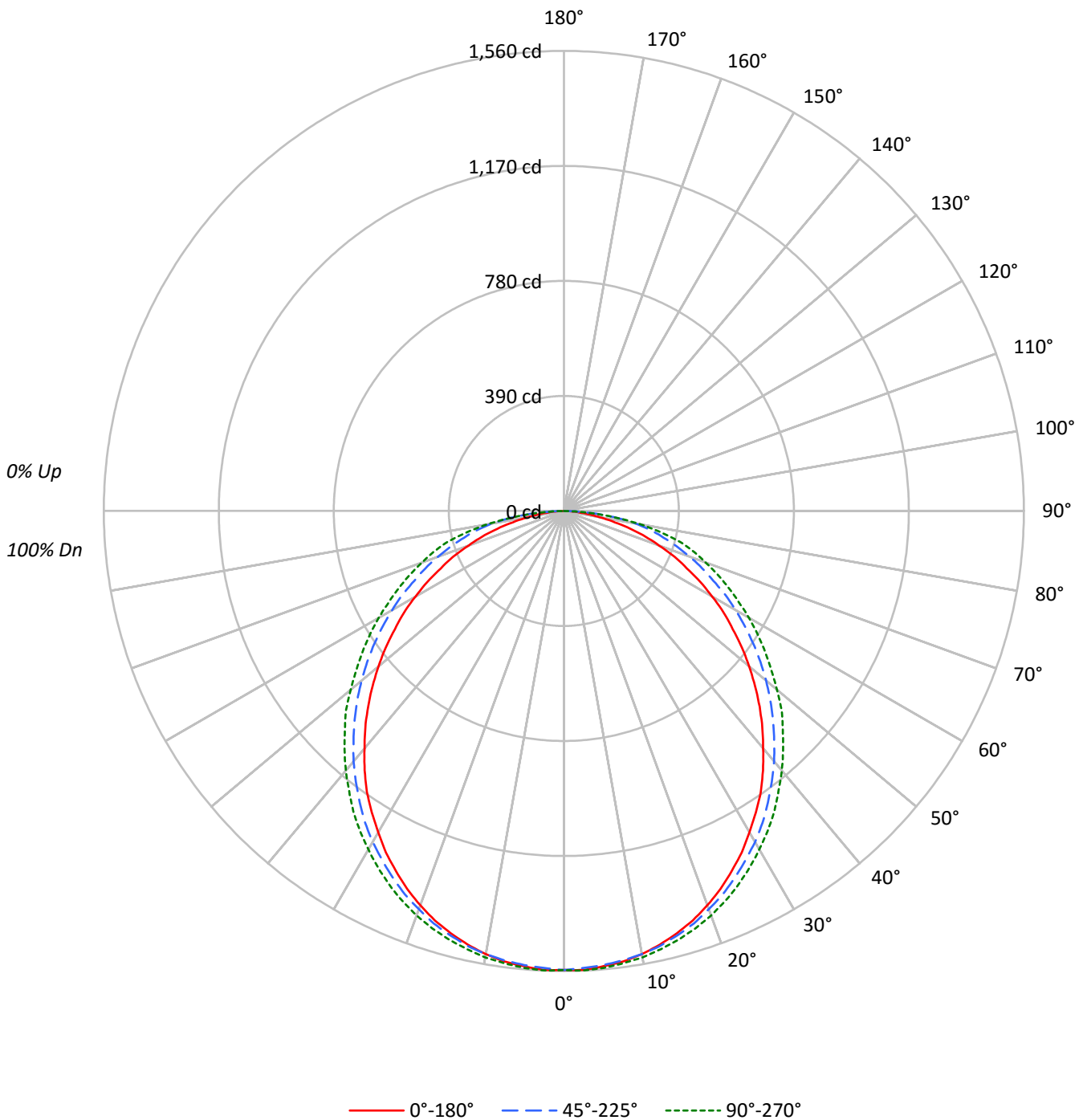
Input Watts (W): 38.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2094	2094	2094
5°	2093	2087	2100
10°	2084	2084	2100
15°	2064	2074	2096
20°	2037	2058	2090
25°	2000	2037	2077
30°	1955	2014	2060
35°	1912	1981	2044
40°	1847	1948	2020
45°	1786	1909	1998
50°	1717	1874	1974
55°	1641	1839	1955
60°	1564	1810	1950
65°	1465	1779	1963
70°	1356	1788	2015
75°	1214	1822	2129
80°	982	1930	2083
85°	739	1695	1652



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.4	3.3
10°-20°	421.1	9.5
20°-30°	633.0	14.3
30°-40°	754.0	17.0
40°-50°	771.7	17.4
50°-60°	694.7	15.7
60°-70°	545.6	12.3
70°-80°	354.1	8.0
80°-90°	109.5	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°	1201.4	27.1
0°-40°	1955.4	44.1
0°-60°	3421.8	77.2
0°-90°	4431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1557	1557	1557	1557	1557	
5°	1550	1552	1545	1554	1555	147
15°	1482	1486	1489	1502	1505	418
25°	1347	1358	1372	1395	1399	620
35°	1164	1178	1206	1236	1244	726
45°	939	961	1004	1042	1050	724
55°	700	730	784	825	833	627
65°	460	495	559	605	616	458
75°	234	279	350	398	410	247
85°	48	89	110	107	107	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1556.6	1556.6	1556.6	1556.6	1556.6
2.5°	1558.0	1558.0	1551.0	1558.0	1559.5
5°	1549.6	1552.4	1545.4	1553.8	1555.2
7.5°	1541.2	1541.2	1536.9	1545.4	1546.8
10°	1525.7	1527.1	1525.7	1535.5	1536.9
12.5°	1506.0	1508.8	1510.2	1520.0	1521.5
15°	1482.0	1486.3	1489.1	1501.7	1504.6
17.5°	1455.3	1459.5	1466.6	1480.6	1483.5
20°	1422.9	1428.6	1437.0	1455.3	1459.5
22.5°	1387.7	1393.4	1407.4	1424.3	1431.4
25°	1346.9	1358.2	1372.3	1394.8	1399.0
27.5°	1306.1	1316.0	1334.3	1358.2	1363.8
30°	1258.3	1273.7	1296.3	1320.2	1325.8
32.5°	1211.8	1227.3	1254.0	1279.4	1286.4
35°	1164.0	1178.0	1206.2	1235.7	1244.2
37.5°	1109.1	1127.4	1158.3	1187.9	1196.3
40°	1051.4	1073.9	1109.1	1140.0	1149.9
42.5°	996.5	1020.4	1055.6	1089.4	1100.6
45°	938.8	961.3	1003.5	1041.5	1050.0
47.5°	879.7	905.0	950.0	988.0	1002.1
50°	820.5	847.3	895.1	934.5	943.0
52.5°	761.4	789.6	840.2	882.5	886.7
55°	699.5	730.5	783.9	824.8	833.2
57.5°	643.2	669.9	727.7	769.9	779.7
60°	581.3	610.8	672.8	712.2	724.8
62.5°	522.2	553.1	617.9	657.3	668.5
65°	460.2	495.4	558.8	605.2	616.5
67.5°	406.8	440.5	508.1	553.1	564.4
70°	344.8	382.8	454.6	501.1	512.3
72.5°	291.3	330.8	402.5	447.6	464.5
75°	233.6	278.7	350.5	398.3	409.6
77.5°	177.3	229.4	302.6	339.2	339.2
80°	126.7	181.6	249.1	266.0	268.8
82.5°	83.0	136.5	184.4	183.0	183.0
85°	47.9	88.7	109.8	107.0	107.0
87.5°	18.3	36.6	39.4	39.4	38.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)