

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: P314317

Luminaire Tested: **24FCZ2-45HE-UNV-L83050-S-CA08-W2A-U-4000K**

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: P314317
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: 24FCZ2-45HE-UNV-L83050-S-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4000K 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: 4524.0 lumens
Efficiency: N/A
Efficacy: 130.8 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

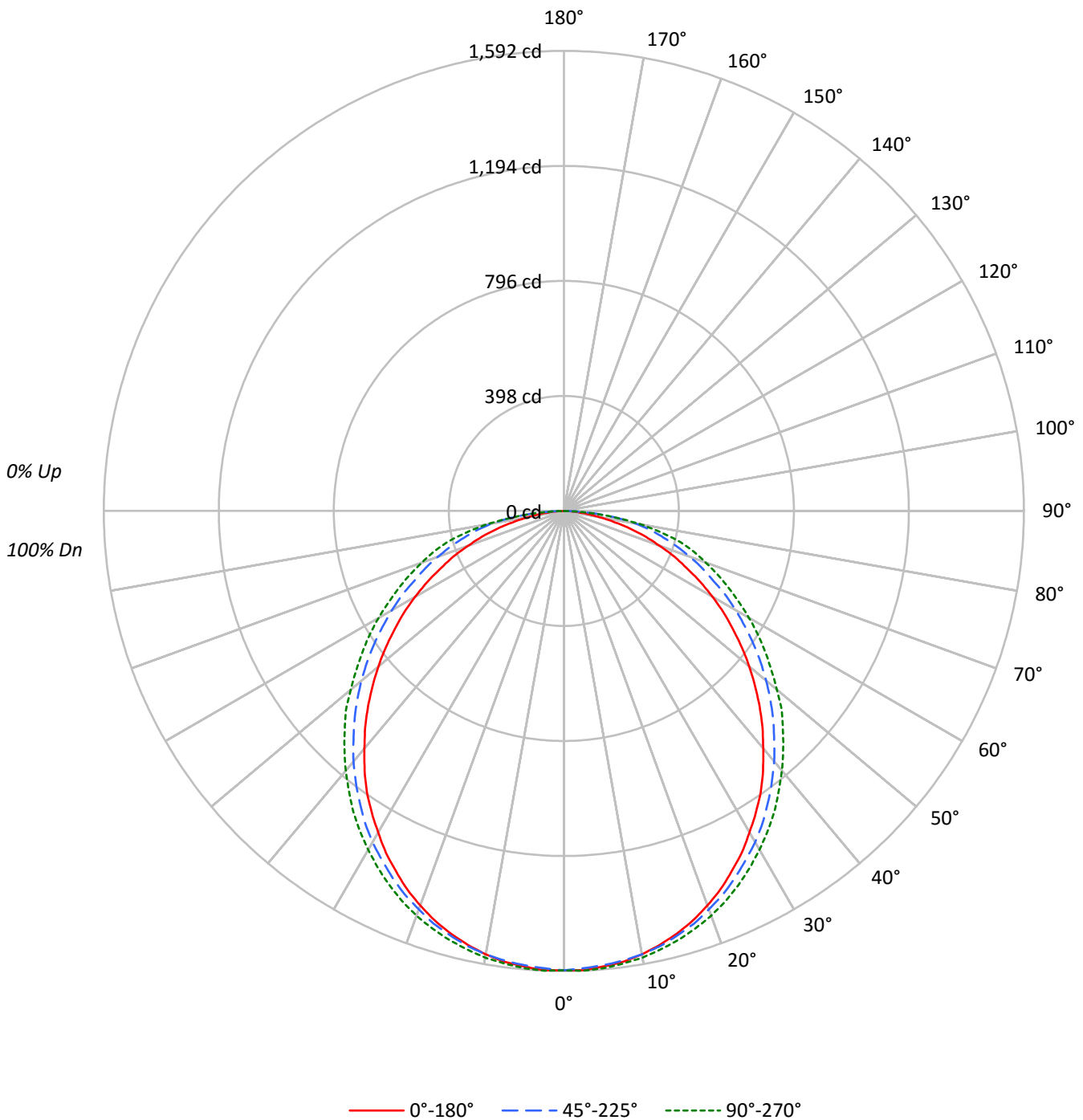
Input Watts (W): 34.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2138	2138	2138
5°	2137	2131	2145
10°	2128	2128	2144
15°	2108	2118	2140
20°	2080	2101	2134
25°	2042	2080	2121
30°	1996	2056	2103
35°	1952	2023	2087
40°	1885	1989	2062
45°	1824	1950	2040
50°	1754	1913	2015
55°	1675	1878	1996
60°	1597	1848	1991
65°	1496	1816	2004
70°	1385	1826	2058
75°	1240	1860	2174
80°	1002	1970	2127
85°	755	1731	1686



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.5	3.3
10°-20°	429.9	9.5
20°-30°	646.3	14.3
30°-40°	769.8	17.0
40°-50°	787.9	17.4
50°-60°	709.3	15.7
60°-70°	557.0	12.3
70°-80°	361.5	8.0
80°-90°	111.8	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°	1226.7	27.1
0°-40°	1996.5	44.1
0°-60°	3493.6	77.2
0°-90°	4524.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4524.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1589	1589	1589	1589	1589	
5°	1582	1585	1578	1586	1588	150
15°	1513	1518	1520	1533	1536	427
25°	1375	1387	1401	1424	1428	634
35°	1188	1203	1232	1262	1270	741
45°	958	982	1025	1063	1072	739
55°	714	746	800	842	851	640
65°	470	506	570	618	629	468
75°	238	284	358	407	418	252
85°	49	90	112	109	109	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1589.3	1589.3	1589.3	1589.3	1589.3
2.5°	1590.7	1590.7	1583.6	1590.7	1592.2
5°	1582.1	1585.0	1577.8	1586.4	1587.9
7.5°	1573.5	1573.5	1569.2	1577.8	1579.3
10°	1557.7	1559.1	1557.7	1567.8	1569.2
12.5°	1537.6	1540.5	1541.9	1551.9	1553.4
15°	1513.2	1517.5	1520.3	1533.3	1536.1
17.5°	1485.8	1490.2	1497.3	1511.7	1514.6
20°	1452.8	1458.5	1467.2	1485.8	1490.2
22.5°	1416.9	1422.6	1437.0	1454.2	1461.4
25°	1375.2	1386.7	1401.1	1424.1	1428.4
27.5°	1333.5	1343.6	1362.3	1386.7	1392.4
30°	1284.7	1300.5	1323.5	1347.9	1353.6
32.5°	1237.2	1253.1	1280.4	1306.2	1313.4
35°	1188.4	1202.8	1231.5	1261.7	1270.3
37.5°	1132.3	1151.0	1182.6	1212.8	1221.4
40°	1073.4	1096.4	1132.3	1164.0	1174.0
42.5°	1017.4	1041.8	1077.7	1112.2	1123.7
45°	958.5	981.5	1024.6	1063.4	1072.0
47.5°	898.1	924.0	970.0	1008.8	1023.1
50°	837.8	865.1	913.9	954.2	962.8
52.5°	777.4	806.2	857.9	901.0	905.3
55°	714.2	745.8	800.4	842.1	850.7
57.5°	656.7	684.0	742.9	786.0	796.1
60°	593.5	623.7	686.9	727.1	740.0
62.5°	533.1	564.7	630.8	671.1	682.6
65°	469.9	505.8	570.5	617.9	629.4
67.5°	415.3	449.8	518.8	564.7	576.2
70°	352.1	390.9	464.1	511.6	523.1
72.5°	297.5	337.7	411.0	457.0	474.2
75°	238.5	284.5	357.8	406.7	418.2
77.5°	181.1	234.2	309.0	346.3	346.3
80°	129.3	185.4	254.3	271.6	274.5
82.5°	84.8	139.4	188.2	186.8	186.8
85°	48.9	90.5	112.1	109.2	109.2
87.5°	18.7	37.4	40.2	40.2	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)