

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: P311443

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-S-CA08-W2A-U-6500K**

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: P311443
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-L82765-S-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 6500K 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

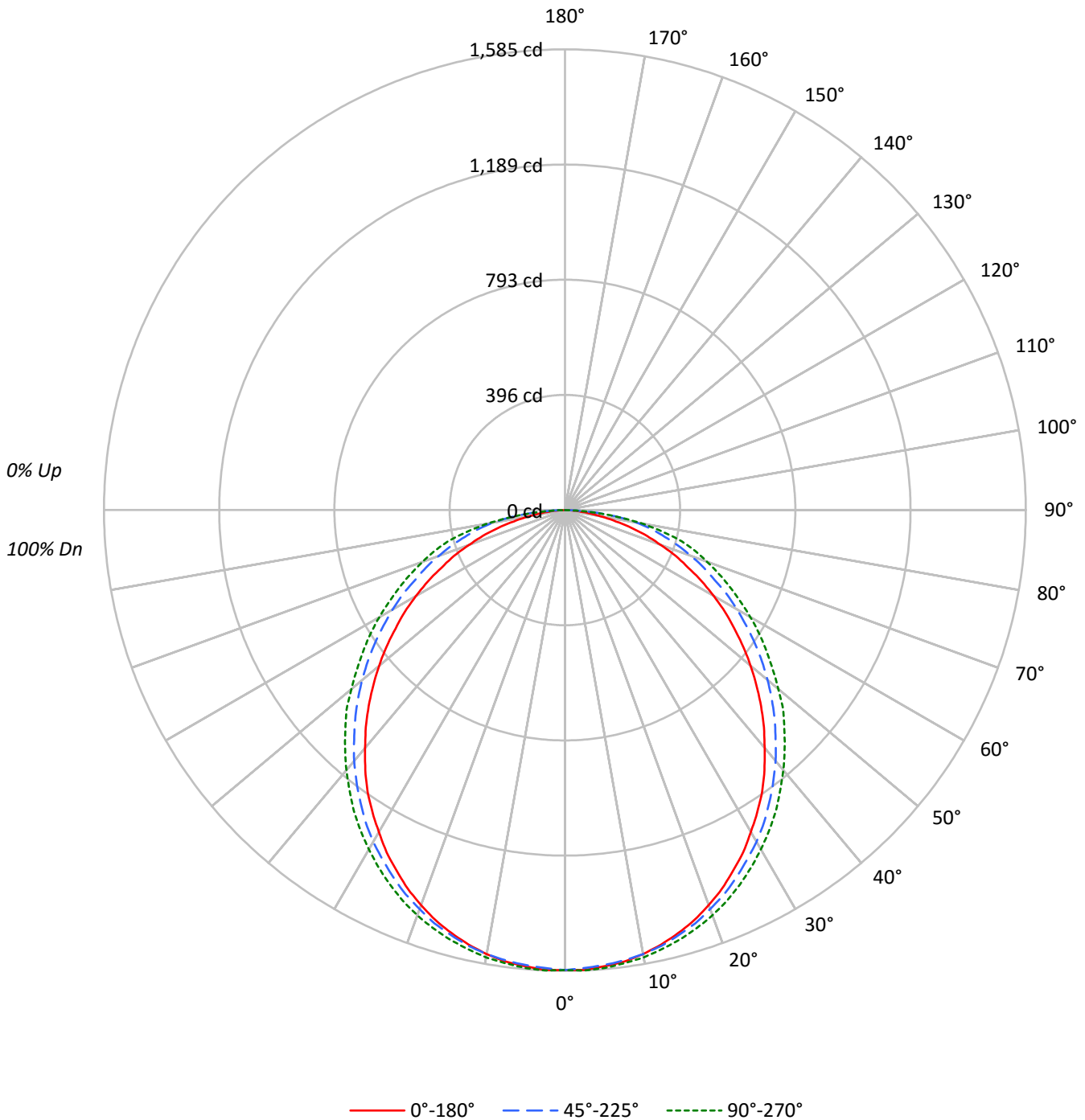
Lumens per Lamp: N/A
Luminaire Lumens: 4504.0 lumens
Efficiency: N/A
Efficacy: 127.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 35.3
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°	2129	2129	2129
5°	2127	2122	2135
10°	2119	2119	2134
15°	2098	2108	2130
20°	2071	2091	2124
25°	2033	2071	2111
30°	1987	2047	2094
35°	1943	2014	2077
40°	1877	1980	2053
45°	1816	1941	2031
50°	1746	1905	2006
55°	1668	1869	1987
60°	1590	1840	1983
65°	1489	1808	1995
70°	1379	1818	2049
75°	1235	1852	2164
80°	998	1962	2118
85°	750	1723	1678



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.8	3.3
10°-20°	428.0	9.5
20°-30°	643.4	14.3
30°-40°	766.4	17.0
40°-50°	784.4	17.4
50°-60°	706.2	15.7
60°-70°	554.6	12.3
70°-80°	359.9	8.0
80°-90°	111.3	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°	1221.2	27.1
0°-40°	1987.6	44.1
0°-60°	3478.2	77.2
0°-90°	4504.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4504.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1575	1578	1571	1579	1581	150
15°	1506	1511	1514	1526	1529	425
25°	1369	1381	1395	1418	1422	631
35°	1183	1197	1226	1256	1265	738
45°	954	977	1020	1059	1067	736
55°	711	742	797	838	847	637
65°	468	504	568	615	627	466
75°	238	283	356	405	416	251
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°	1582.3	1582.3	1582.3	1582.3	1582.3
2.5°	1583.7	1583.7	1576.6	1583.7	1585.1
5°	1575.1	1578.0	1570.8	1579.4	1580.9
7.5°	1566.5	1566.5	1562.3	1570.8	1572.3
10°	1550.8	1552.2	1550.8	1560.8	1562.3
12.5°	1530.8	1533.6	1535.1	1545.1	1546.5
15°	1506.5	1510.8	1513.6	1526.5	1529.4
17.5°	1479.3	1483.6	1490.7	1505.0	1507.9
20°	1446.4	1452.1	1460.7	1479.3	1483.6
22.5°	1410.6	1416.3	1430.6	1447.8	1455.0
25°	1369.1	1380.6	1394.9	1417.8	1422.1
27.5°	1327.6	1337.6	1356.2	1380.6	1386.3
30°	1279.0	1294.7	1317.6	1341.9	1347.7
32.5°	1231.8	1247.5	1274.7	1300.4	1307.6
35°	1183.1	1197.4	1226.1	1256.1	1264.7
37.5°	1127.3	1145.9	1177.4	1207.5	1216.0
40°	1068.7	1091.6	1127.3	1158.8	1168.8
42.5°	1012.9	1037.2	1073.0	1107.3	1118.8
45°	954.2	977.1	1020.0	1058.7	1067.3
47.5°	894.1	919.9	965.7	1004.3	1018.6
50°	834.1	861.2	909.9	949.9	958.5
52.5°	774.0	802.6	854.1	897.0	901.3
55°	711.0	742.5	796.9	838.4	846.9
57.5°	653.8	681.0	739.6	782.6	792.6
60°	590.9	620.9	683.8	723.9	736.8
62.5°	530.8	562.2	628.0	668.1	679.6
65°	467.8	503.6	568.0	615.2	626.6
67.5°	413.5	447.8	516.5	562.2	573.7
70°	350.5	389.1	462.1	509.3	520.8
72.5°	296.1	336.2	409.2	454.9	472.1
75°	237.5	283.3	356.2	404.9	416.3
77.5°	180.3	233.2	307.6	344.8	344.8
80°	128.8	184.6	253.2	270.4	273.3
82.5°	84.4	138.8	187.4	186.0	186.0
85°	48.6	90.1	111.6	108.7	108.7
87.5°	18.6	37.2	40.1	40.1	38.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)