

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: P311705

Luminaire Tested: **24FCZ2-65HE-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: P311705
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: 24FCZ2-65HE-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

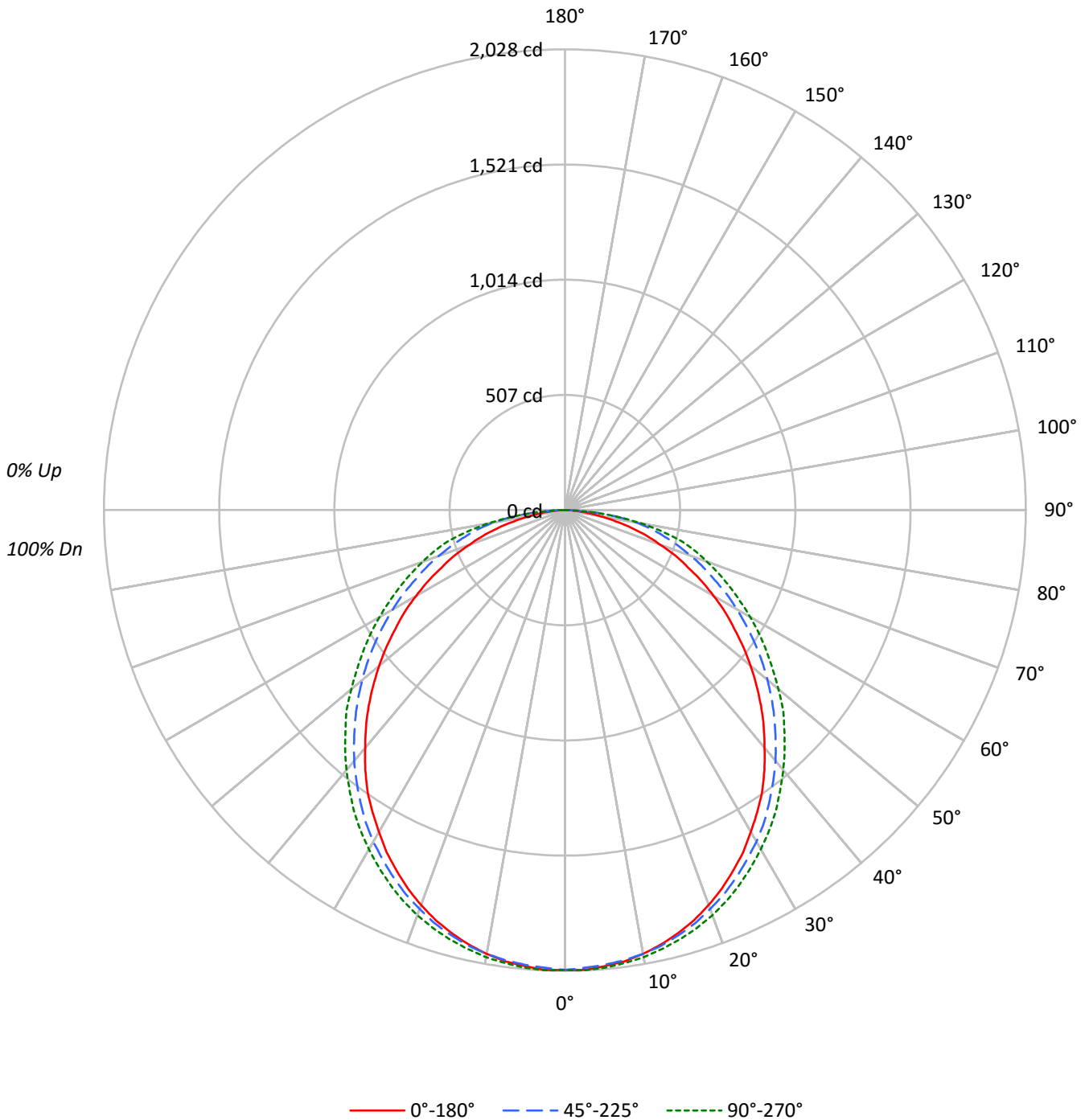
Lumens per Lamp: N/A
Luminaire Lumens: 5761.0 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 52.6
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°	2723	2723	2723
5°	2721	2714	2731
10°	2710	2710	2730
15°	2684	2697	2725
20°	2649	2675	2717
25°	2600	2649	2700
30°	2542	2618	2678
35°	2486	2576	2657
40°	2401	2533	2626
45°	2322	2483	2598
50°	2233	2436	2566
55°	2133	2391	2541
60°	2034	2354	2536
65°	1905	2313	2552
70°	1764	2325	2620
75°	1579	2368	2768
80°	1276	2510	2708
85°	960	2203	2147



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.6	3.3
10°-20°	547.5	9.5
20°-30°	823.0	14.3
30°-40°	980.3	17.0
40°-50°	1003.3	17.4
50°-60°	903.3	15.7
60°-70°	709.4	12.3
70°-80°	460.4	8.0
80°-90°	142.4	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°	1562.1	27.1
0°-40°	2542.4	44.1
0°-60°	4448.9	77.2
0°-90°	5761.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5761.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2024	2024	2024	2024	2024	
5°	2015	2018	2009	2020	2022	191
15°	1927	1932	1936	1952	1956	543
25°	1751	1766	1784	1813	1819	807
35°	1513	1532	1568	1607	1618	944
45°	1220	1250	1305	1354	1365	941
55°	910	950	1019	1072	1083	815
65°	598	644	726	787	802	596
75°	304	362	456	518	532	321
85°	62	115	143	139	139	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2023.9	2023.9	2023.9	2023.9	2023.9
2.5°	2025.7	2025.7	2016.6	2025.7	2027.5
5°	2014.7	2018.4	2009.2	2020.2	2022.0
7.5°	2003.7	2003.7	1998.3	2009.2	2011.1
10°	1983.6	1985.4	1983.6	1996.4	1998.3
12.5°	1958.0	1961.7	1963.5	1976.3	1978.1
15°	1926.9	1932.4	1936.0	1952.5	1956.2
17.5°	1892.1	1897.6	1906.8	1925.1	1928.7
20°	1850.0	1857.4	1868.3	1892.1	1897.6
22.5°	1804.3	1811.6	1829.9	1851.9	1861.0
25°	1751.2	1765.9	1784.2	1813.4	1818.9
27.5°	1698.2	1711.0	1734.8	1765.9	1773.2
30°	1635.9	1656.1	1685.3	1716.5	1723.8
32.5°	1575.5	1595.7	1630.4	1663.4	1672.5
35°	1513.3	1531.6	1568.2	1606.7	1617.6
37.5°	1442.0	1465.8	1506.0	1544.4	1555.4
40°	1366.9	1396.2	1442.0	1482.2	1495.0
42.5°	1295.6	1326.7	1372.4	1416.3	1431.0
45°	1220.5	1249.8	1304.7	1354.1	1365.1
47.5°	1143.7	1176.6	1235.2	1284.6	1302.9
50°	1066.8	1101.6	1163.8	1215.1	1226.0
52.5°	990.0	1026.6	1092.5	1147.4	1152.8
55°	909.5	949.7	1019.3	1072.3	1083.3
57.5°	836.3	871.0	946.1	1001.0	1013.8
60°	755.8	794.2	874.7	925.9	942.4
62.5°	678.9	719.2	803.3	854.6	869.2
65°	598.4	644.1	726.5	786.9	801.5
67.5°	528.8	572.8	660.6	719.2	733.8
70°	448.3	497.7	591.1	651.4	666.1
72.5°	378.8	430.0	523.4	581.9	603.9
75°	303.8	362.3	455.6	517.9	532.5
77.5°	230.6	298.3	393.4	441.0	441.0
80°	164.7	236.1	323.9	345.9	349.5
82.5°	108.0	177.5	239.7	237.9	237.9
85°	62.2	115.3	142.7	139.1	139.1
87.5°	23.8	47.6	51.2	51.2	49.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)