

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: P314090

Luminaire Tested: **24FCZ2-65HE-UNV-L83050-CA08-W2A-U-3000K**

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: P314090
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: 24FCZ2-65HE-UNV-L83050-CA08-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3000K 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: 5647.0 lumens
Efficiency: N/A
Efficacy: 107.6 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

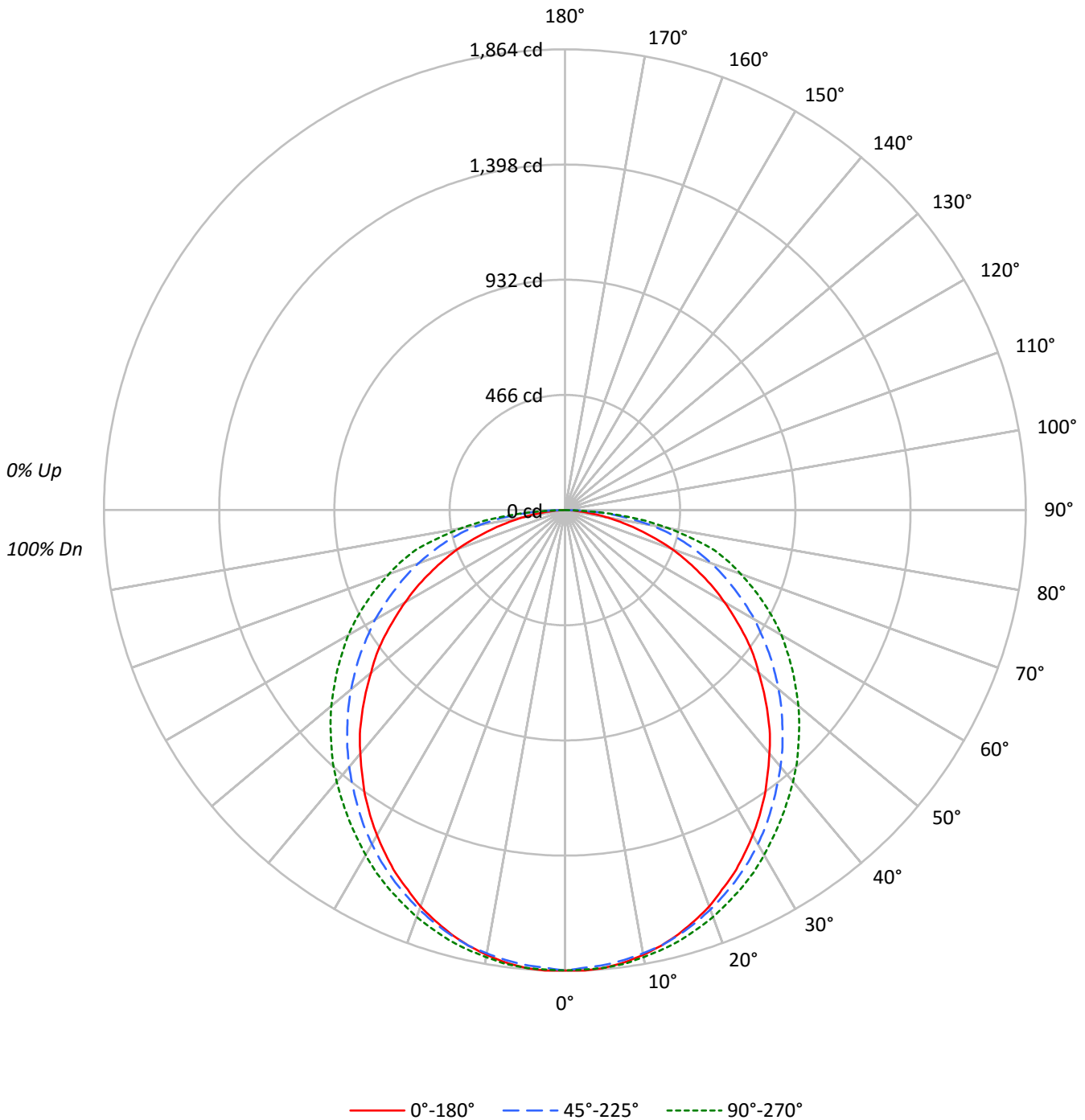
Input Watts (W): 52.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2506	2506	2506
5°	2510	2495	2510
10°	2496	2488	2509
15°	2474	2479	2511
20°	2444	2463	2508
25°	2406	2445	2506
30°	2361	2425	2503
35°	2314	2400	2505
40°	2261	2383	2521
45°	2207	2367	2542
50°	2141	2361	2581
55°	2088	2365	2633
60°	2007	2385	2722
65°	1915	2410	2821
70°	1813	2484	2978
75°	1617	2591	3253
80°	1379	2744	3324
85°	983	2719	3182



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.2	3.1
10°-20°	504.0	8.9
20°-30°	761.2	13.5
30°-40°	917.4	16.2
40°-50°	963.1	17.1
50°-60°	901.0	16.0
60°-70°	744.1	13.2
70°-80°	507.0	9.0
80°-90°	172.9	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°	1441.4	25.5
0°-40°	2358.8	41.8
0°-60°	4222.9	74.8
0°-90°	5647.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5647.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1862	1862	1862	1862	1862	
5°	1859	1857	1847	1859	1859	176
15°	1776	1778	1780	1799	1802	501
25°	1621	1628	1647	1679	1688	746
35°	1409	1424	1461	1510	1525	880
45°	1160	1184	1244	1312	1336	894
55°	890	926	1008	1090	1122	794
65°	601	652	757	852	886	597
75°	311	382	498	592	626	332
85°	64	126	176	199	206	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1862.3	1862.3	1862.3	1862.3	1862.3
2.5°	1864.2	1862.3	1853.0	1862.3	1860.5
5°	1858.6	1856.7	1847.3	1858.6	1858.6
7.5°	1845.5	1845.5	1836.1	1849.2	1851.1
10°	1826.7	1826.7	1821.1	1836.1	1836.1
12.5°	1804.3	1804.3	1804.3	1819.2	1821.1
15°	1776.1	1778.0	1779.9	1798.6	1802.4
17.5°	1742.4	1746.2	1751.8	1774.3	1778.0
20°	1706.8	1710.6	1719.9	1746.2	1751.8
22.5°	1661.9	1671.2	1684.3	1714.3	1719.9
25°	1620.6	1628.1	1646.9	1678.7	1688.1
27.5°	1570.1	1581.3	1605.7	1639.4	1652.5
30°	1519.5	1530.7	1560.7	1600.0	1611.3
32.5°	1465.1	1482.0	1513.8	1555.1	1568.2
35°	1408.9	1423.9	1461.4	1510.1	1525.1
37.5°	1347.1	1367.7	1408.9	1461.4	1480.1
40°	1287.1	1309.6	1356.5	1412.7	1435.2
42.5°	1227.2	1249.7	1302.1	1365.8	1388.3
45°	1159.7	1184.1	1244.1	1311.5	1335.9
47.5°	1092.3	1122.3	1187.8	1259.0	1285.3
50°	1023.0	1056.7	1127.9	1202.8	1232.8
52.5°	961.1	993.0	1067.9	1148.5	1176.6
55°	889.9	925.5	1008.0	1090.4	1122.3
57.5°	816.9	856.2	944.3	1034.2	1066.1
60°	745.7	788.8	886.2	976.1	1011.7
62.5°	676.4	719.5	820.6	914.3	949.9
65°	601.4	652.0	756.9	852.5	886.2
67.5°	530.2	584.6	695.1	788.8	822.5
70°	460.9	513.4	631.4	723.2	756.9
72.5°	386.0	445.9	563.9	659.5	695.1
75°	311.0	382.2	498.4	592.0	625.8
77.5°	241.7	314.8	430.9	507.7	524.6
80°	178.0	252.9	354.1	408.4	429.0
82.5°	114.3	189.2	269.8	309.1	326.0
85°	63.7	125.5	176.1	198.6	206.1
87.5°	26.2	54.3	71.2	80.6	80.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)