

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: P311031

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-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: P311031
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-L82765-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: 5642.0 lumens
Efficiency: N/A
Efficacy: 108.1 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

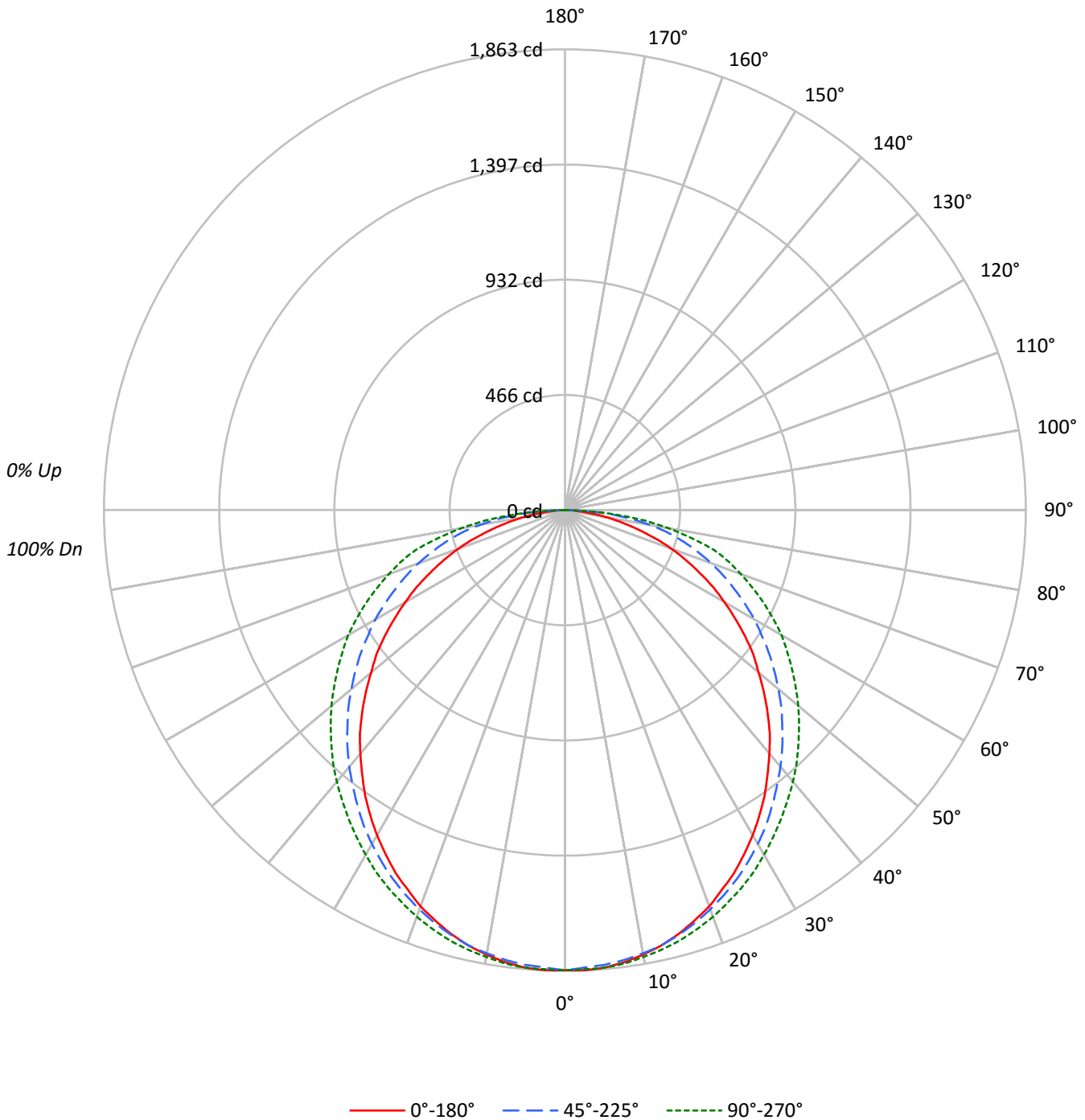
Input Watts (W): 52.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2504	2504	2504
5°	2508	2493	2508
10°	2494	2486	2506
15°	2472	2477	2508
20°	2442	2460	2506
25°	2404	2443	2504
30°	2359	2423	2501
35°	2312	2398	2503
40°	2259	2380	2519
45°	2205	2365	2540
50°	2139	2359	2578
55°	2086	2362	2630
60°	2005	2383	2720
65°	1913	2408	2819
70°	1812	2482	2975
75°	1615	2588	3250
80°	1378	2741	3322
85°	982	2717	3179



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.1	3.1
10°-20°	503.5	8.9
20°-30°	760.5	13.5
30°-40°	916.6	16.2
40°-50°	962.3	17.1
50°-60°	900.3	16.0
60°-70°	743.4	13.2
70°-80°	506.6	9.0
80°-90°	172.8	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°	1440.1	25.5
0°-40°	2356.7	41.8
0°-60°	4219.2	74.8
0°-90°	5642.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5642.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1861	1861	1861	1861	1861	
5°	1857	1855	1846	1857	1857	176
15°	1775	1776	1778	1797	1801	500
25°	1619	1627	1645	1677	1687	745
35°	1408	1423	1460	1509	1524	880
45°	1159	1183	1243	1310	1335	894
55°	889	925	1007	1090	1121	794
65°	601	651	756	852	885	596
75°	311	382	498	592	625	331
85°	64	125	176	198	206	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1860.7	1860.7	1860.7	1860.7	1860.7
2.5°	1862.6	1860.7	1851.3	1860.7	1858.8
5°	1856.9	1855.1	1845.7	1856.9	1856.9
7.5°	1843.8	1843.8	1834.5	1847.6	1849.5
10°	1825.1	1825.1	1819.5	1834.5	1834.5
12.5°	1802.7	1802.7	1802.7	1817.6	1819.5
15°	1774.6	1776.4	1778.3	1797.0	1800.8
17.5°	1740.9	1744.6	1750.2	1772.7	1776.4
20°	1705.3	1709.1	1718.4	1744.6	1750.2
22.5°	1660.4	1669.7	1682.9	1712.8	1718.4
25°	1619.2	1626.7	1645.4	1677.2	1686.6
27.5°	1568.7	1579.9	1604.2	1637.9	1651.0
30°	1518.1	1529.4	1559.3	1598.6	1609.8
32.5°	1463.8	1480.7	1512.5	1553.7	1566.8
35°	1407.7	1422.7	1460.1	1508.8	1523.7
37.5°	1345.9	1366.5	1407.7	1460.1	1478.8
40°	1286.0	1308.5	1355.3	1411.4	1433.9
42.5°	1226.1	1248.6	1301.0	1364.6	1387.1
45°	1158.7	1183.0	1243.0	1310.3	1334.7
47.5°	1091.3	1121.3	1186.8	1257.9	1284.1
50°	1022.1	1055.8	1126.9	1201.8	1231.7
52.5°	960.3	992.1	1067.0	1147.5	1175.6
55°	889.2	924.7	1007.1	1089.5	1121.3
57.5°	816.2	855.5	943.4	1033.3	1065.1
60°	745.0	788.1	885.4	975.3	1010.8
62.5°	675.8	718.8	819.9	913.5	949.1
65°	600.9	651.4	756.3	851.7	885.4
67.5°	529.8	584.0	694.5	788.1	821.8
70°	460.5	512.9	630.8	722.6	756.3
72.5°	385.6	445.5	563.4	658.9	694.5
75°	310.7	381.9	497.9	591.5	625.2
77.5°	241.5	314.5	430.5	507.3	524.1
80°	177.8	252.7	353.8	408.1	428.7
82.5°	114.2	189.1	269.6	308.9	325.7
85°	63.6	125.4	176.0	198.4	205.9
87.5°	26.2	54.3	71.1	80.5	80.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)