

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: P311662

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA08-W2A-U-3500K**

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: P311662
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: 24FCZ2-60HE-UNV-L82765-S-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 5659.0 lumens
Efficiency: N/A
Efficacy: 118.4 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

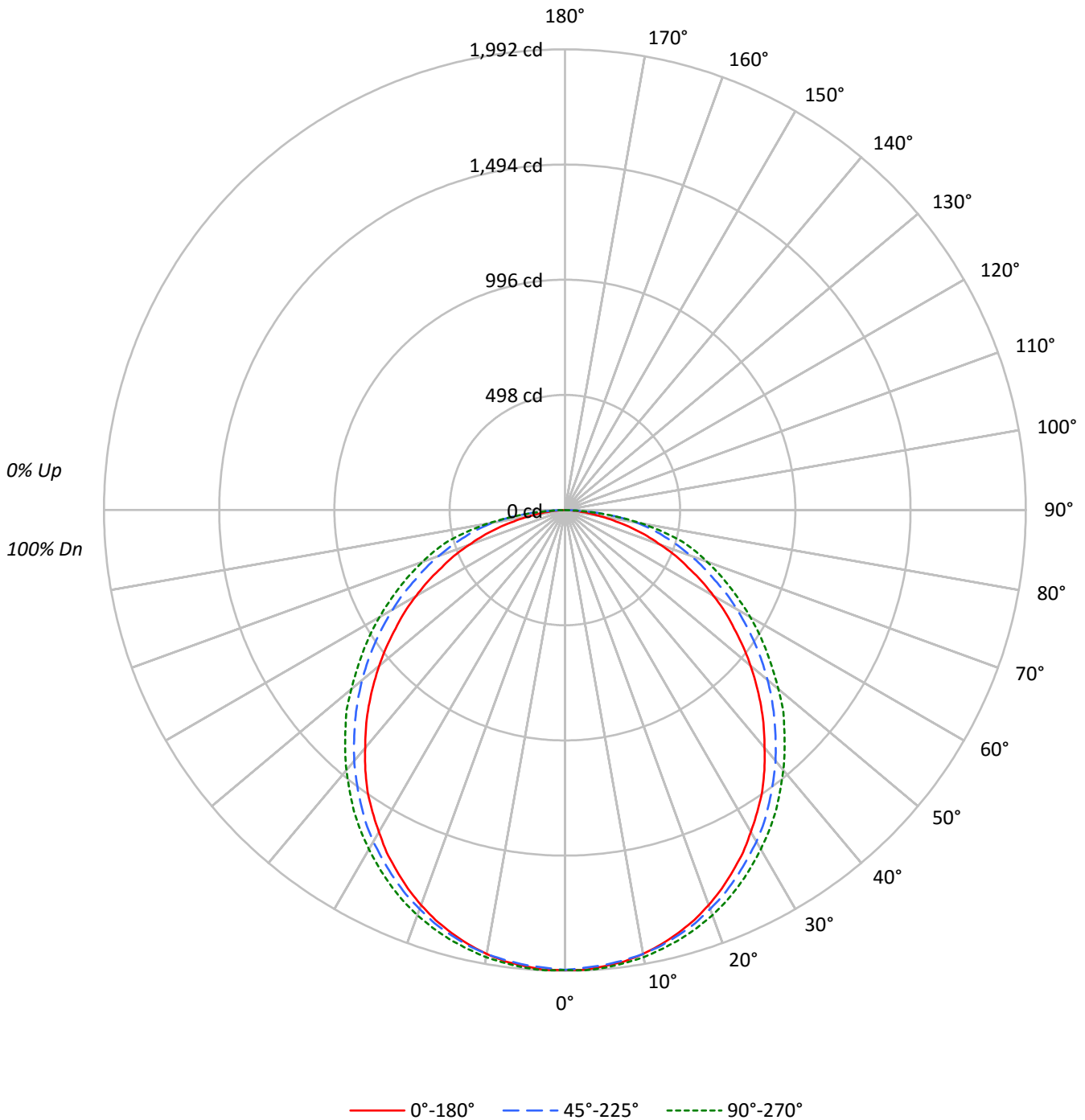
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-60HE-UNV-L82765-S-CA08-W2A-U-3500K

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°	2675	2675	2675
5°	2673	2666	2683
10°	2662	2662	2682
15°	2637	2649	2677
20°	2602	2628	2669
25°	2554	2602	2653
30°	2497	2572	2631
35°	2442	2530	2610
40°	2358	2488	2579
45°	2281	2439	2551
50°	2193	2393	2521
55°	2096	2349	2496
60°	1998	2312	2491
65°	1871	2272	2507
70°	1733	2284	2574
75°	1551	2327	2719
80°	1254	2466	2660
85°	943	2164	2109



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.2	3.3
10°-20°	537.8	9.5
20°-30°	808.4	14.3
30°-40°	962.9	17.0
40°-50°	985.5	17.4
50°-60°	887.2	15.7
60°-70°	696.8	12.3
70°-80°	452.2	8.0
80°-90°	139.9	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°	1534.4	27.1
0°-40°	2497.3	44.1
0°-60°	4370.1	77.2
0°-90°	5659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5659.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1988	1988	1988	1988	1988	
5°	1979	1983	1974	1984	1986	188
15°	1893	1898	1902	1918	1922	534
25°	1720	1735	1753	1781	1787	792
35°	1486	1504	1540	1578	1589	927
45°	1199	1228	1282	1330	1341	924
55°	893	933	1001	1053	1064	801
65°	588	633	714	773	787	585
75°	298	356	448	509	523	316
85°	61	113	140	137	137	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1988.0	1988.0	1988.0	1988.0	1988.0
2.5°	1989.8	1989.8	1980.9	1989.8	1991.6
5°	1979.1	1982.7	1973.7	1984.4	1986.2
7.5°	1968.3	1968.3	1962.9	1973.7	1975.5
10°	1948.5	1950.3	1948.5	1961.1	1962.9
12.5°	1923.3	1926.9	1928.7	1941.3	1943.1
15°	1892.8	1898.2	1901.8	1917.9	1921.5
17.5°	1858.6	1864.0	1873.0	1891.0	1894.6
20°	1817.3	1824.5	1835.3	1858.6	1864.0
22.5°	1772.3	1779.5	1797.5	1819.1	1828.1
25°	1720.2	1734.6	1752.6	1781.3	1786.7
27.5°	1668.1	1680.7	1704.0	1734.6	1741.8
30°	1607.0	1626.7	1655.5	1686.1	1693.3
32.5°	1547.7	1567.4	1601.6	1633.9	1642.9
35°	1486.5	1504.5	1540.5	1578.2	1589.0
37.5°	1416.4	1439.8	1479.3	1517.1	1527.9
40°	1342.7	1371.5	1416.4	1456.0	1468.6
42.5°	1272.6	1303.2	1348.1	1391.3	1405.7
45°	1198.9	1227.7	1281.6	1330.2	1340.9
47.5°	1123.4	1155.8	1213.3	1261.9	1279.8
50°	1047.9	1082.1	1143.2	1193.5	1204.3
52.5°	972.5	1008.4	1073.1	1127.0	1132.4
55°	893.4	932.9	1001.2	1053.3	1064.1
57.5°	821.5	855.6	929.3	983.2	995.8
60°	742.4	780.1	859.2	909.5	925.7
62.5°	666.9	706.4	789.1	839.4	853.8
65°	587.8	632.7	713.6	772.9	787.3
67.5°	519.5	562.6	648.9	706.4	720.8
70°	440.4	488.9	580.6	639.9	654.3
72.5°	372.1	422.4	514.1	571.6	593.2
75°	298.4	355.9	447.6	508.7	523.1
77.5°	226.5	293.0	386.5	433.2	433.2
80°	161.8	231.9	318.2	339.7	343.3
82.5°	106.1	174.4	235.5	233.7	233.7
85°	61.1	113.2	140.2	136.6	136.6
87.5°	23.4	46.7	50.3	50.3	48.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)