

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: P311667

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA08-W2A-U-5700K**

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: P311667
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-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5700K 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: 6042.0 lumens
Efficiency: N/A
Efficacy: 123.6 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

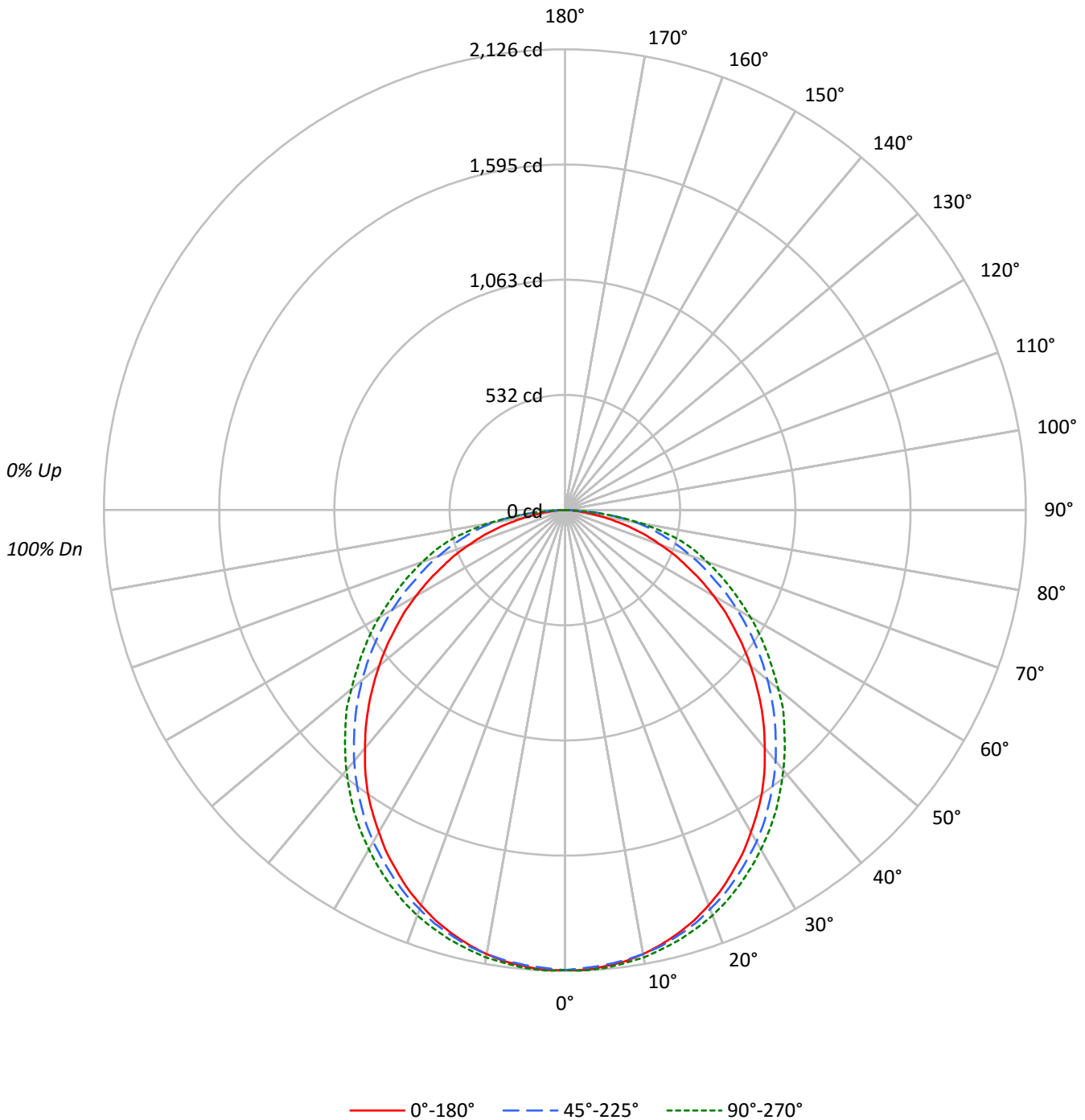
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2856	2856	2856
5°	2854	2846	2864
10°	2842	2842	2863
15°	2815	2828	2858
20°	2778	2806	2850
25°	2727	2778	2832
30°	2666	2746	2809
35°	2607	2701	2787
40°	2518	2656	2754
45°	2436	2604	2724
50°	2342	2555	2691
55°	2237	2508	2665
60°	2133	2469	2660
65°	1998	2426	2676
70°	1850	2439	2748
75°	1656	2484	2903
80°	1338	2632	2841
85°	1008	2311	2252



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.9	3.3
10°-20°	574.2	9.5
20°-30°	863.1	14.3
30°-40°	1028.1	17.0
40°-50°	1052.2	17.4
50°-60°	947.3	15.7
60°-70°	743.9	12.3
70°-80°	482.8	8.0
80°-90°	149.3	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°	1638.2	27.1
0°-40°	2666.4	44.1
0°-60°	4665.9	77.2
0°-90°	6042.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6042.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2123	2123	2123	2123	2123	
5°	2113	2117	2107	2119	2121	201
15°	2021	2027	2030	2048	2052	570
25°	1837	1852	1871	1902	1908	846
35°	1587	1606	1645	1685	1696	990
45°	1280	1311	1368	1420	1432	987
55°	954	996	1069	1125	1136	855
65°	628	676	762	825	841	625
75°	319	380	478	543	558	337
85°	65	121	150	146	146	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2122.6	2122.6	2122.6	2122.6	2122.6
2.5°	2124.5	2124.5	2114.9	2124.5	2126.4
5°	2113.0	2116.8	2107.2	2118.8	2120.7
7.5°	2101.5	2101.5	2095.7	2107.2	2109.2
10°	2080.4	2082.3	2080.4	2093.8	2095.7
12.5°	2053.5	2057.3	2059.3	2072.7	2074.6
15°	2020.9	2026.6	2030.5	2047.7	2051.6
17.5°	1984.4	1990.2	1999.8	2019.0	2022.8
20°	1940.3	1948.0	1959.5	1984.4	1990.2
22.5°	1892.3	1900.0	1919.2	1942.2	1951.8
25°	1836.6	1852.0	1871.2	1901.9	1907.6
27.5°	1781.0	1794.4	1819.4	1852.0	1859.7
30°	1715.7	1736.8	1767.5	1800.2	1807.9
32.5°	1652.4	1673.5	1710.0	1744.5	1754.1
35°	1587.1	1606.3	1644.7	1685.0	1696.5
37.5°	1512.3	1537.2	1579.5	1619.8	1631.3
40°	1433.6	1464.3	1512.3	1554.5	1568.0
42.5°	1358.8	1391.4	1439.4	1485.4	1500.8
45°	1280.1	1310.8	1368.4	1420.2	1431.7
47.5°	1199.5	1234.0	1295.4	1347.3	1366.4
50°	1118.9	1155.3	1220.6	1274.3	1285.8
52.5°	1038.3	1076.7	1145.7	1203.3	1209.1
55°	953.8	996.0	1069.0	1124.6	1136.1
57.5°	877.1	913.5	992.2	1049.8	1063.2
60°	792.6	832.9	917.4	971.1	988.4
62.5°	712.0	754.2	842.5	896.2	911.6
65°	627.6	675.5	761.9	825.2	840.6
67.5°	554.6	600.7	692.8	754.2	769.6
70°	470.2	522.0	619.9	683.2	698.6
72.5°	397.3	451.0	548.9	610.3	633.3
75°	318.6	380.0	477.9	543.1	558.5
77.5°	241.8	312.8	412.6	462.5	462.5
80°	172.7	247.6	339.7	362.7	366.6
82.5°	113.2	186.2	251.4	249.5	249.5
85°	65.3	120.9	149.7	145.9	145.9
87.5°	24.9	49.9	53.7	53.7	51.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)