

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: P314443

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-S-CA08-W2A-U-4500K**

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: P314443
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-L83050-S-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 6142.0 lumens
Efficiency: N/A
Efficacy: 123.1 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

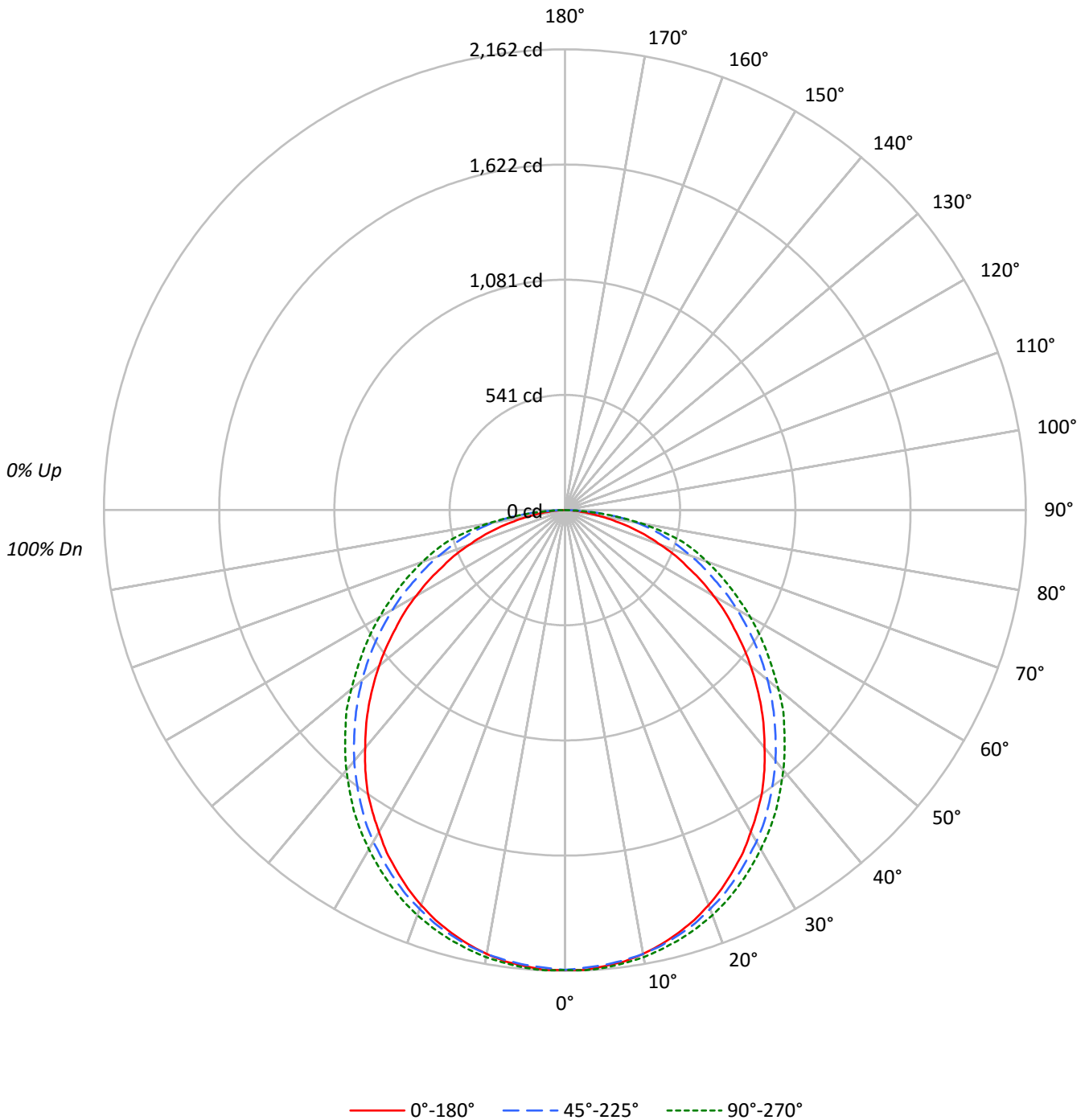
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2903	2903	2903
5°	2901	2893	2912
10°	2889	2889	2911
15°	2862	2875	2905
20°	2824	2852	2897
25°	2772	2824	2879
30°	2710	2792	2855
35°	2650	2746	2833
40°	2560	2700	2800
45°	2476	2647	2769
50°	2381	2597	2736
55°	2274	2549	2709
60°	2168	2509	2704
65°	2031	2466	2720
70°	1880	2479	2793
75°	1684	2525	2951
80°	1361	2676	2887
85°	1024	2350	2289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.3	3.3
10°-20°	583.7	9.5
20°-30°	877.4	14.3
30°-40°	1045.1	17.0
40°-50°	1069.6	17.4
50°-60°	963.0	15.7
60°-70°	756.3	12.3
70°-80°	490.8	8.0
80°-90°	151.8	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°	1665.4	27.1
0°-40°	2710.5	44.1
0°-60°	4743.1	77.2
0°-90°	6142.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6142.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2158	2158	2158	2158	2158	
5°	2148	2152	2142	2154	2156	204
15°	2054	2060	2064	2082	2086	579
25°	1867	1883	1902	1933	1939	860
35°	1613	1633	1672	1713	1725	1007
45°	1301	1332	1391	1444	1455	1003
55°	970	1012	1087	1143	1155	869
65°	638	687	774	839	854	635
75°	324	386	486	552	568	343
85°	66	123	152	148	148	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2157.7	2157.7	2157.7	2157.7	2157.7
2.5°	2159.7	2159.7	2149.9	2159.7	2161.6
5°	2148.0	2151.9	2142.1	2153.8	2155.8
7.5°	2136.3	2136.3	2130.4	2142.1	2144.1
10°	2114.8	2116.8	2114.8	2128.5	2130.4
12.5°	2087.5	2091.4	2093.3	2107.0	2109.0
15°	2054.3	2060.2	2064.1	2081.6	2085.5
17.5°	2017.3	2023.1	2032.9	2052.4	2056.3
20°	1972.4	1980.2	1991.9	2017.3	2023.1
22.5°	1923.6	1931.4	1950.9	1974.3	1984.1
25°	1867.0	1882.6	1902.2	1933.4	1939.2
27.5°	1810.5	1824.1	1849.5	1882.6	1890.4
30°	1744.1	1765.6	1796.8	1830.0	1837.8
32.5°	1679.7	1701.2	1738.3	1773.4	1783.1
35°	1613.4	1632.9	1671.9	1712.9	1724.6
37.5°	1537.3	1562.7	1605.6	1646.6	1658.3
40°	1457.3	1488.6	1537.3	1580.3	1593.9
42.5°	1381.3	1414.4	1463.2	1510.0	1525.6
45°	1301.3	1332.5	1391.0	1443.7	1455.4
47.5°	1219.3	1254.4	1316.9	1369.6	1389.1
50°	1137.4	1174.5	1240.8	1295.4	1307.1
52.5°	1055.5	1094.5	1164.7	1223.2	1229.1
55°	969.6	1012.5	1086.7	1143.2	1154.9
57.5°	891.6	928.6	1008.6	1067.2	1080.8
60°	805.7	846.7	932.5	987.2	1004.7
62.5°	723.8	766.7	856.5	911.1	926.7
65°	638.0	686.7	774.5	838.9	854.5
67.5°	563.8	610.6	704.3	766.7	782.3
70°	478.0	530.7	630.1	694.5	710.1
72.5°	403.8	458.5	558.0	620.4	643.8
75°	323.9	386.3	485.8	552.1	567.7
77.5°	245.8	318.0	419.4	470.2	470.2
80°	175.6	251.7	345.3	368.7	372.6
82.5°	115.1	189.2	255.6	253.6	253.6
85°	66.3	122.9	152.2	148.3	148.3
87.5°	25.4	50.7	54.6	54.6	52.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)