

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: P314445

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-S-CA125-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: P314445
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-CA125-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 5456.0 lumens
Efficiency: N/A
Efficacy: 114.9 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

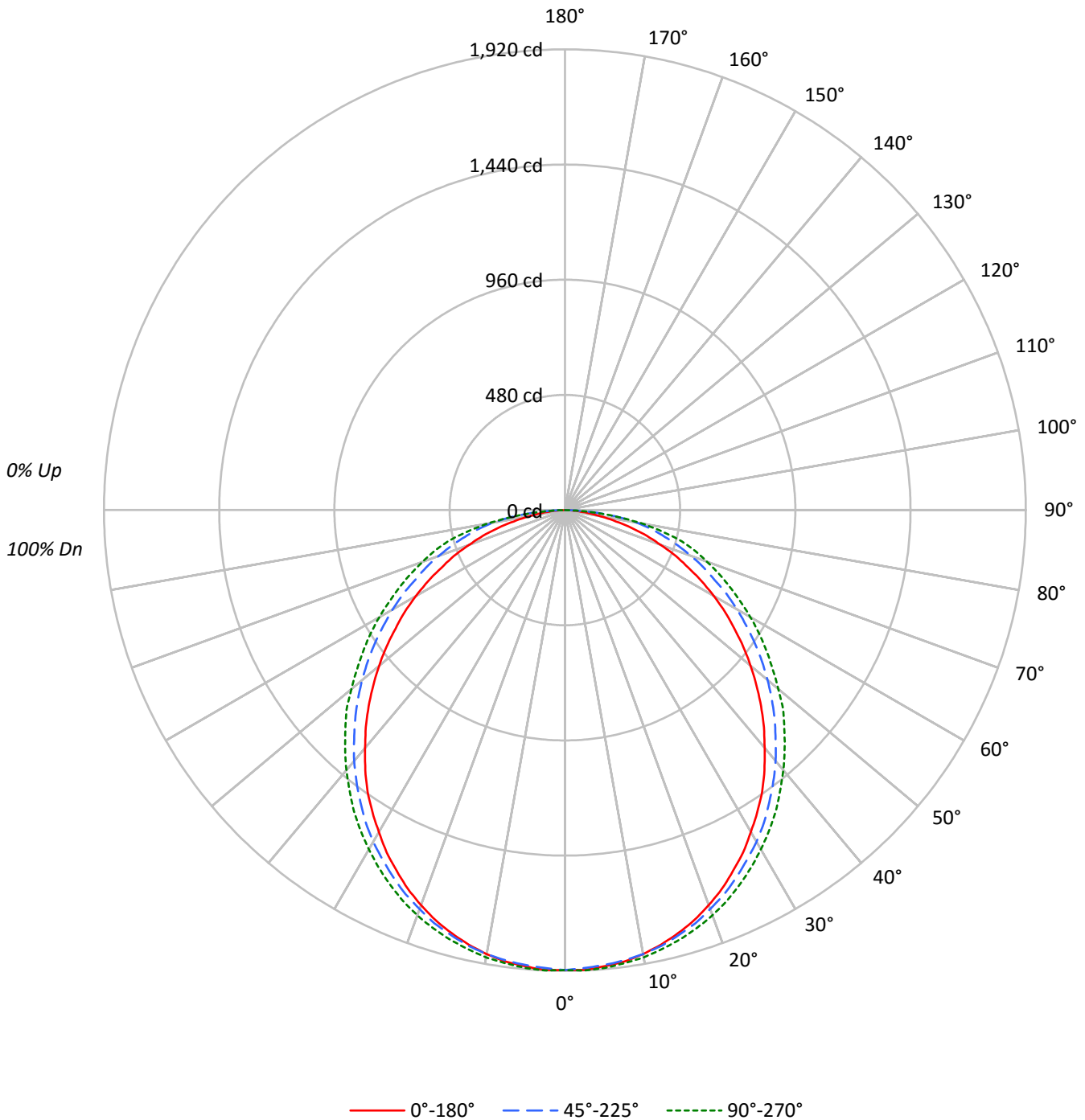
Input Watts (W): 47.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2579	2579	2579
5°	2577	2570	2586
10°	2567	2567	2586
15°	2542	2554	2581
20°	2509	2533	2573
25°	2462	2509	2557
30°	2407	2480	2536
35°	2354	2439	2516
40°	2274	2399	2487
45°	2199	2351	2460
50°	2115	2307	2430
55°	2020	2264	2407
60°	1926	2229	2402
65°	1804	2190	2417
70°	1670	2202	2482
75°	1496	2243	2622
80°	1209	2376	2565
85°	909	2087	2033



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.5	3.3
10°-20°	518.5	9.5
20°-30°	779.4	14.3
30°-40°	928.4	17.0
40°-50°	950.2	17.4
50°-60°	855.4	15.7
60°-70°	671.8	12.3
70°-80°	436.0	8.0
80°-90°	134.8	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°	1479.4	27.1
0°-40°	2407.7	44.1
0°-60°	4213.4	77.2
0°-90°	5456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5456.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1917	1917	1917	1917	1917	
5°	1908	1912	1903	1913	1915	181
15°	1825	1830	1834	1849	1853	515
25°	1658	1672	1690	1717	1723	764
35°	1433	1450	1485	1522	1532	894
45°	1156	1184	1236	1282	1293	891
55°	861	899	965	1016	1026	772
65°	567	610	688	745	759	564
75°	288	343	432	490	504	304
85°	59	109	135	132	132	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1916.7	1916.7	1916.7	1916.7	1916.7
2.5°	1918.5	1918.5	1909.8	1918.5	1920.2
5°	1908.1	1911.5	1902.9	1913.3	1915.0
7.5°	1897.7	1897.7	1892.5	1902.9	1904.6
10°	1878.6	1880.3	1878.6	1890.7	1892.5
12.5°	1854.3	1857.8	1859.5	1871.7	1873.4
15°	1824.9	1830.1	1833.5	1849.1	1852.6
17.5°	1792.0	1797.1	1805.8	1823.1	1826.6
20°	1752.1	1759.0	1769.4	1792.0	1797.1
22.5°	1708.8	1715.7	1733.0	1753.8	1762.5
25°	1658.5	1672.4	1689.7	1717.4	1722.6
27.5°	1608.2	1620.4	1642.9	1672.4	1679.3
30°	1549.3	1568.4	1596.1	1625.6	1632.5
32.5°	1492.1	1511.2	1544.1	1575.3	1584.0
35°	1433.2	1450.5	1485.2	1521.6	1532.0
37.5°	1365.6	1388.2	1426.3	1462.7	1473.1
40°	1294.6	1322.3	1365.6	1403.8	1415.9
42.5°	1227.0	1256.4	1299.8	1341.4	1355.2
45°	1155.9	1183.7	1235.6	1282.4	1292.8
47.5°	1083.1	1114.3	1169.8	1216.6	1233.9
50°	1010.4	1043.3	1102.2	1150.7	1161.1
52.5°	937.6	972.2	1034.6	1086.6	1091.8
55°	861.3	899.4	965.3	1015.6	1026.0
57.5°	792.0	824.9	896.0	948.0	960.1
60°	715.7	752.1	828.4	876.9	892.5
62.5°	643.0	681.1	760.8	809.3	823.2
65°	566.7	610.0	688.0	745.2	759.1
67.5°	500.8	542.4	625.6	681.1	694.9
70°	424.6	471.4	559.8	617.0	630.8
72.5°	358.7	407.3	495.6	551.1	571.9
75°	287.7	343.1	431.5	490.4	504.3
77.5°	218.4	282.5	372.6	417.7	417.7
80°	156.0	223.6	306.7	327.5	331.0
82.5°	102.2	168.1	227.0	225.3	225.3
85°	58.9	109.2	135.2	131.7	131.7
87.5°	22.5	45.1	48.5	48.5	46.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)