

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: P313696

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CA125-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: P313696
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
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-RDP-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.125" 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: 3696.0 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

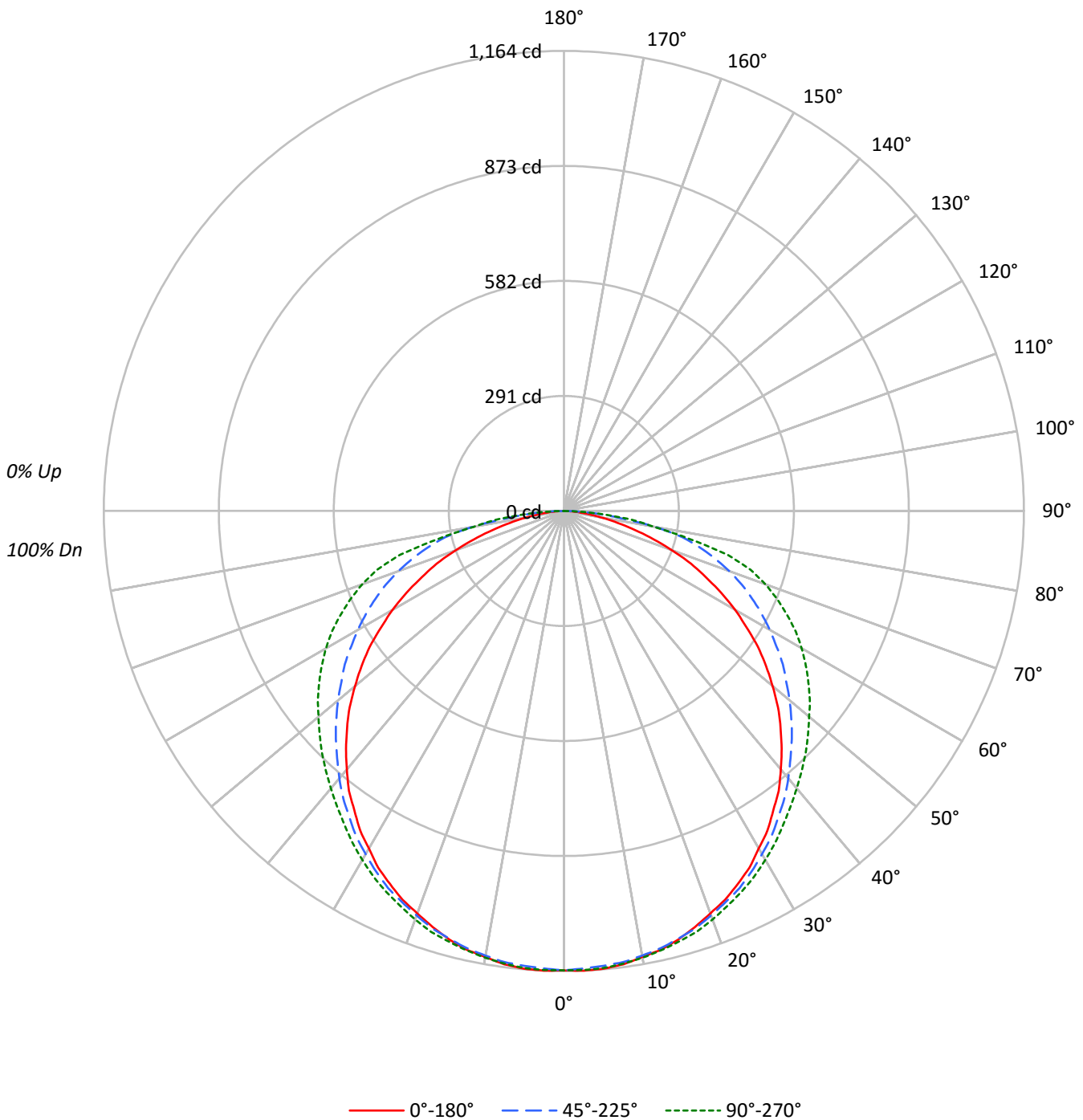
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1564	1564	1564
5°	1570	1560	1567
10°	1565	1560	1568
15°	1563	1560	1571
20°	1551	1559	1575
25°	1546	1562	1579
30°	1532	1558	1584
35°	1518	1554	1590
40°	1501	1552	1610
45°	1476	1552	1647
50°	1443	1562	1696
55°	1406	1587	1772
60°	1347	1618	1870
65°	1261	1675	1984
70°	1147	1753	2135
75°	972	1849	2230
80°	767	1861	1804
85°	567	1416	1585



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.3	3.0
10°-20°	317.3	8.6
20°-30°	485.2	13.1
30°-40°	593.2	16.0
40°-50°	632.2	17.1
50°-60°	604.5	16.4
60°-70°	512.1	13.9
70°-80°	344.2	9.3
80°-90°	97.1	2.6
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°	912.8	24.7
0°-40°	1506.0	40.7
0°-60°	2742.7	74.2
0°-90°	3696.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3696.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1162	1162	1162	1162	1162	
5°	1162	1160	1155	1160	1160	110
15°	1122	1122	1120	1129	1128	316
25°	1041	1045	1052	1062	1063	480
35°	924	931	946	964	968	579
45°	776	788	816	851	865	598
55°	600	622	676	730	755	534
65°	396	436	526	596	623	393
75°	187	255	356	416	429	200
85°	37	75	92	99	103	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1162.3	1162.3	1162.3	1162.3	1162.3
2.5°	1164.1	1164.1	1158.6	1162.3	1162.3
5°	1162.3	1160.5	1155.0	1160.5	1160.5
7.5°	1156.8	1155.0	1151.3	1156.8	1155.0
10°	1145.8	1145.8	1142.1	1147.6	1147.6
12.5°	1136.6	1134.8	1133.0	1140.3	1138.5
15°	1122.0	1122.0	1120.1	1129.3	1127.5
17.5°	1103.6	1105.5	1107.3	1114.6	1116.5
20°	1083.5	1087.1	1089.0	1100.0	1100.0
22.5°	1065.1	1067.0	1070.6	1081.6	1081.6
25°	1041.3	1045.0	1052.3	1061.5	1063.3
27.5°	1017.5	1019.3	1028.5	1041.3	1043.1
30°	986.3	991.8	1002.8	1017.5	1019.3
32.5°	958.8	964.3	977.1	991.8	995.5
35°	924.0	931.3	946.0	964.3	968.0
37.5°	892.8	898.3	916.6	936.8	942.3
40°	854.3	865.3	883.6	907.5	916.6
42.5°	815.8	826.8	848.8	880.0	891.0
45°	775.5	788.3	815.8	850.6	865.3
47.5°	735.1	749.8	781.0	821.3	837.8
50°	689.3	707.6	746.1	792.0	810.3
52.5°	645.3	667.3	709.5	760.8	784.6
55°	599.5	621.5	676.5	729.6	755.3
57.5°	548.1	577.5	638.0	698.5	726.0
60°	500.5	528.0	601.3	667.3	694.8
62.5°	449.1	485.8	564.6	634.3	661.8
65°	396.0	436.3	526.1	595.8	623.3
67.5°	348.3	392.3	487.6	557.3	584.8
70°	291.5	346.5	445.5	515.1	542.6
72.5°	238.3	298.8	401.5	469.3	495.0
75°	187.0	254.8	355.7	416.1	429.0
77.5°	139.3	210.8	308.0	333.7	324.5
80°	99.0	168.7	240.2	227.3	232.8
82.5°	64.2	128.3	148.5	168.7	174.2
85°	36.7	75.2	91.7	99.0	102.7
87.5°	16.5	27.5	36.7	36.7	34.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)