

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: P310321

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-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: P310321
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-L82765-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: 3610.0 lumens
Efficiency: N/A
Efficacy: 75.5 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

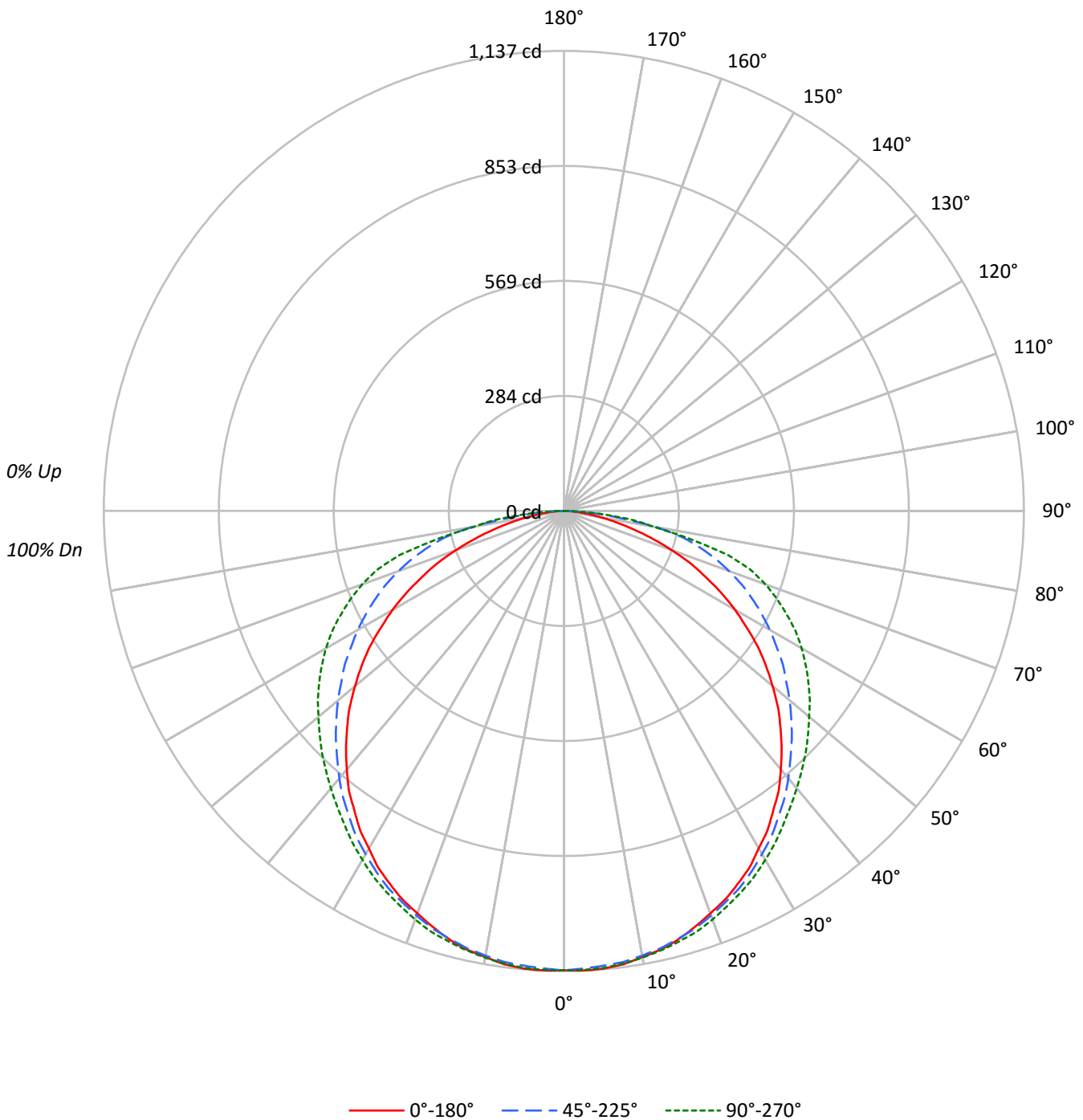
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	68	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°	1527	1527	1527
5°	1533	1524	1531
10°	1529	1524	1531
15°	1526	1524	1534
20°	1515	1523	1538
25°	1510	1526	1542
30°	1497	1522	1547
35°	1482	1518	1553
40°	1466	1516	1573
45°	1441	1516	1608
50°	1409	1526	1657
55°	1373	1550	1730
60°	1315	1580	1826
65°	1231	1636	1938
70°	1120	1712	2085
75°	949	1806	2178
80°	749	1818	1762
85°	553	1382	1548



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.7	3.0
10°-20°	309.9	8.6
20°-30°	473.9	13.1
30°-40°	579.4	16.0
40°-50°	617.5	17.1
50°-60°	590.4	16.4
60°-70°	500.2	13.9
70°-80°	336.1	9.3
80°-90°	94.8	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°	891.6	24.7
0°-40°	1471.0	40.7
0°-60°	2678.9	74.2
0°-90°	3610.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3610.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1135	1135	1135	1135	1135	
5°	1135	1134	1128	1134	1134	108
15°	1096	1096	1094	1103	1101	309
25°	1017	1021	1028	1037	1038	469
35°	902	910	924	942	945	565
45°	757	770	797	831	845	584
55°	586	607	661	713	738	522
65°	387	426	514	582	609	384
75°	183	249	347	406	419	196
85°	36	73	90	97	100	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1135.2	1135.2	1135.2	1135.2	1135.2
2.5°	1137.0	1137.0	1131.7	1135.2	1135.2
5°	1135.2	1133.5	1128.1	1133.5	1133.5
7.5°	1129.9	1128.1	1124.5	1129.9	1128.1
10°	1119.1	1119.1	1115.5	1120.9	1120.9
12.5°	1110.2	1108.4	1106.6	1113.8	1112.0
15°	1095.8	1095.8	1094.1	1103.0	1101.2
17.5°	1077.9	1079.7	1081.5	1088.7	1090.5
20°	1058.2	1061.8	1063.6	1074.4	1074.4
22.5°	1040.3	1042.1	1045.7	1056.5	1056.5
25°	1017.1	1020.6	1027.8	1036.8	1038.5
27.5°	993.8	995.6	1004.5	1017.1	1018.9
30°	963.3	968.7	979.5	993.8	995.6
32.5°	936.5	941.9	954.4	968.7	972.3
35°	902.5	909.6	924.0	941.9	945.4
37.5°	872.0	877.4	895.3	915.0	920.4
40°	834.4	845.2	863.1	886.3	895.3
42.5°	796.8	807.6	829.0	859.5	870.2
45°	757.4	770.0	796.8	830.8	845.2
47.5°	718.0	732.4	762.8	802.2	818.3
50°	673.3	691.2	728.8	773.5	791.4
52.5°	630.3	651.8	693.0	743.1	766.4
55°	585.5	607.0	660.7	712.7	737.7
57.5°	535.4	564.0	623.1	682.2	709.1
60°	488.8	515.7	587.3	651.8	678.6
62.5°	438.7	474.5	551.5	619.5	646.4
65°	386.8	426.2	513.9	581.9	608.8
67.5°	340.2	383.2	476.3	544.3	571.2
70°	284.7	338.4	435.1	503.2	530.0
72.5°	232.8	291.9	392.1	458.4	483.5
75°	182.6	248.9	347.4	406.5	419.0
77.5°	136.1	205.9	300.8	325.9	316.9
80°	96.7	164.7	234.6	222.0	227.4
82.5°	62.7	125.3	145.0	164.7	170.1
85°	35.8	73.4	89.5	96.7	100.3
87.5°	16.1	26.9	35.8	35.8	34.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)