

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: P310343

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-CP187-W2A-U-5500K**

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: P310343
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-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 3609.0 lumens
Efficiency: N/A
Efficacy: 73.8 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

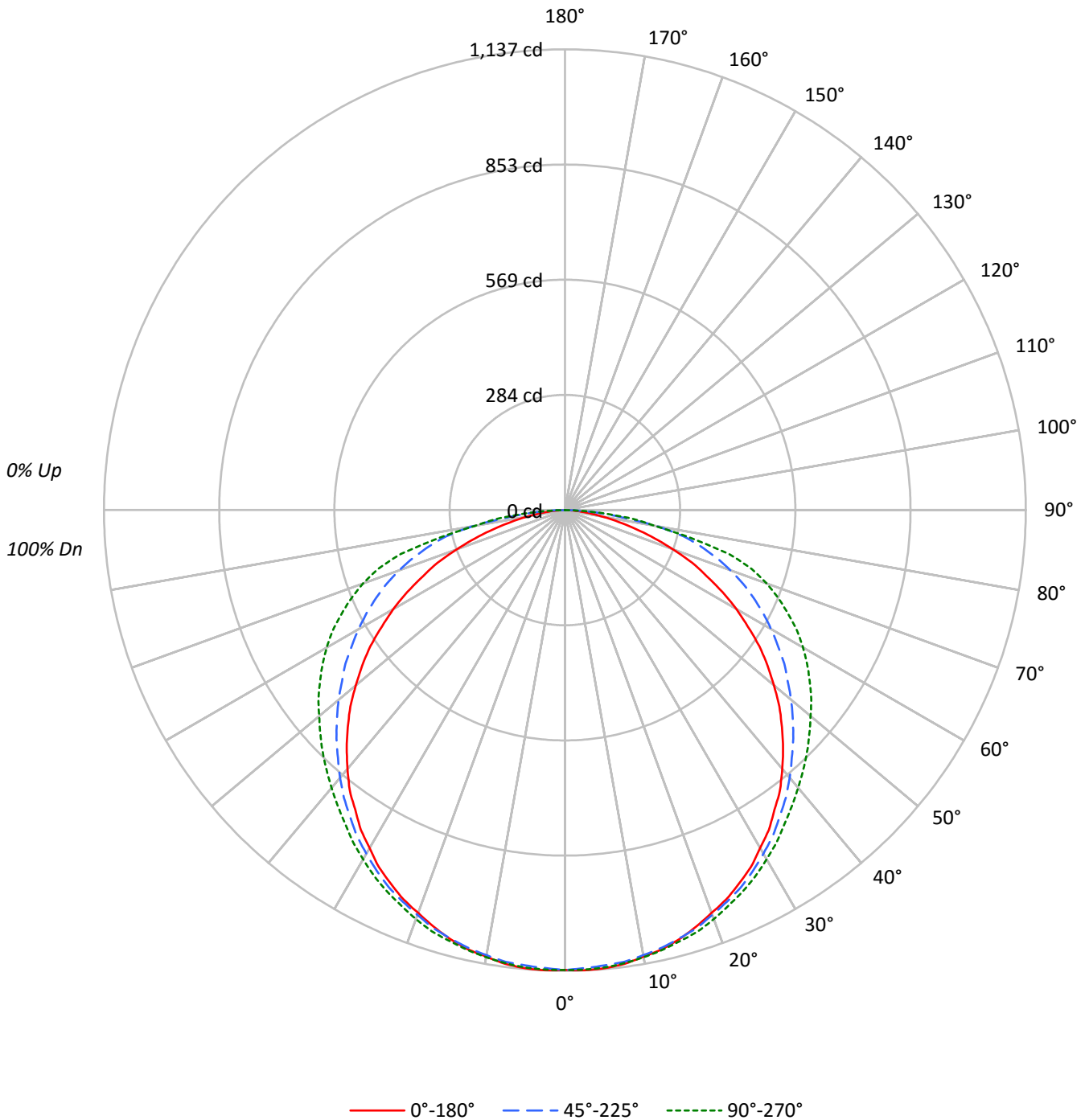
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1527	1527	1527
5°	1533	1523	1530
10°	1529	1524	1531
15°	1526	1524	1534
20°	1515	1522	1538
25°	1510	1525	1541
30°	1496	1521	1546
35°	1482	1517	1553
40°	1465	1515	1572
45°	1441	1516	1608
50°	1409	1525	1656
55°	1373	1549	1730
60°	1315	1580	1826
65°	1231	1636	1938
70°	1120	1711	2085
75°	949	1805	2178
80°	749	1817	1761
85°	553	1382	1547



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.7	3.0
10°-20°	309.8	8.6
20°-30°	473.8	13.1
30°-40°	579.2	16.0
40°-50°	617.3	17.1
50°-60°	590.3	16.4
60°-70°	500.0	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°	891.3	24.7
0°-40°	1470.5	40.7
0°-60°	2678.1	74.2
0°-90°	3609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3609.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1135	1135	1135	1135	1135	
5°	1135	1133	1128	1133	1133	108
15°	1096	1096	1094	1103	1101	309
25°	1017	1020	1028	1036	1038	469
35°	902	909	924	942	945	565
45°	757	770	797	831	845	584
55°	585	607	660	712	738	521
65°	387	426	514	582	609	384
75°	183	249	347	406	419	195
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°	1134.9	1134.9	1134.9	1134.9	1134.9
2.5°	1136.7	1136.7	1131.3	1134.9	1134.9
5°	1134.9	1133.1	1127.8	1133.1	1133.1
7.5°	1129.6	1127.8	1124.2	1129.6	1127.8
10°	1118.8	1118.8	1115.2	1120.6	1120.6
12.5°	1109.9	1108.1	1106.3	1113.4	1111.7
15°	1095.5	1095.5	1093.8	1102.7	1100.9
17.5°	1077.6	1079.4	1081.2	1088.4	1090.2
20°	1058.0	1061.5	1063.3	1074.1	1074.1
22.5°	1040.1	1041.8	1045.4	1056.2	1056.2
25°	1016.8	1020.4	1027.5	1036.5	1038.3
27.5°	993.5	995.3	1004.2	1016.8	1018.6
30°	963.1	968.4	979.2	993.5	995.3
32.5°	936.2	941.6	954.1	968.4	972.0
35°	902.2	909.4	923.7	941.6	945.2
37.5°	871.8	877.2	895.1	914.7	920.1
40°	834.2	844.9	862.8	886.1	895.1
42.5°	796.6	807.3	828.8	859.3	870.0
45°	757.2	769.7	796.6	830.6	844.9
47.5°	717.8	732.2	762.6	802.0	818.1
50°	673.1	691.0	728.6	773.3	791.2
52.5°	630.1	651.6	692.8	742.9	766.2
55°	585.4	606.8	660.5	712.5	737.5
57.5°	535.2	563.9	623.0	682.0	708.9
60°	488.7	515.6	587.2	651.6	678.5
62.5°	438.6	474.4	551.4	619.4	646.2
65°	386.7	426.0	513.8	581.8	608.6
67.5°	340.1	383.1	476.2	544.2	571.0
70°	284.6	338.3	435.0	503.0	529.9
72.5°	232.7	291.8	392.0	458.3	483.3
75°	182.6	248.8	347.3	406.4	418.9
77.5°	136.0	205.9	300.7	325.8	316.8
80°	96.7	164.7	234.5	222.0	227.3
82.5°	62.7	125.3	145.0	164.7	170.1
85°	35.8	73.4	89.5	96.7	100.2
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)