

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: P313707

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CP187-W2A-U-4000K**

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: P313707
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-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 4000K 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: 3644.0 lumens
Efficiency: N/A
Efficacy: 74.8 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

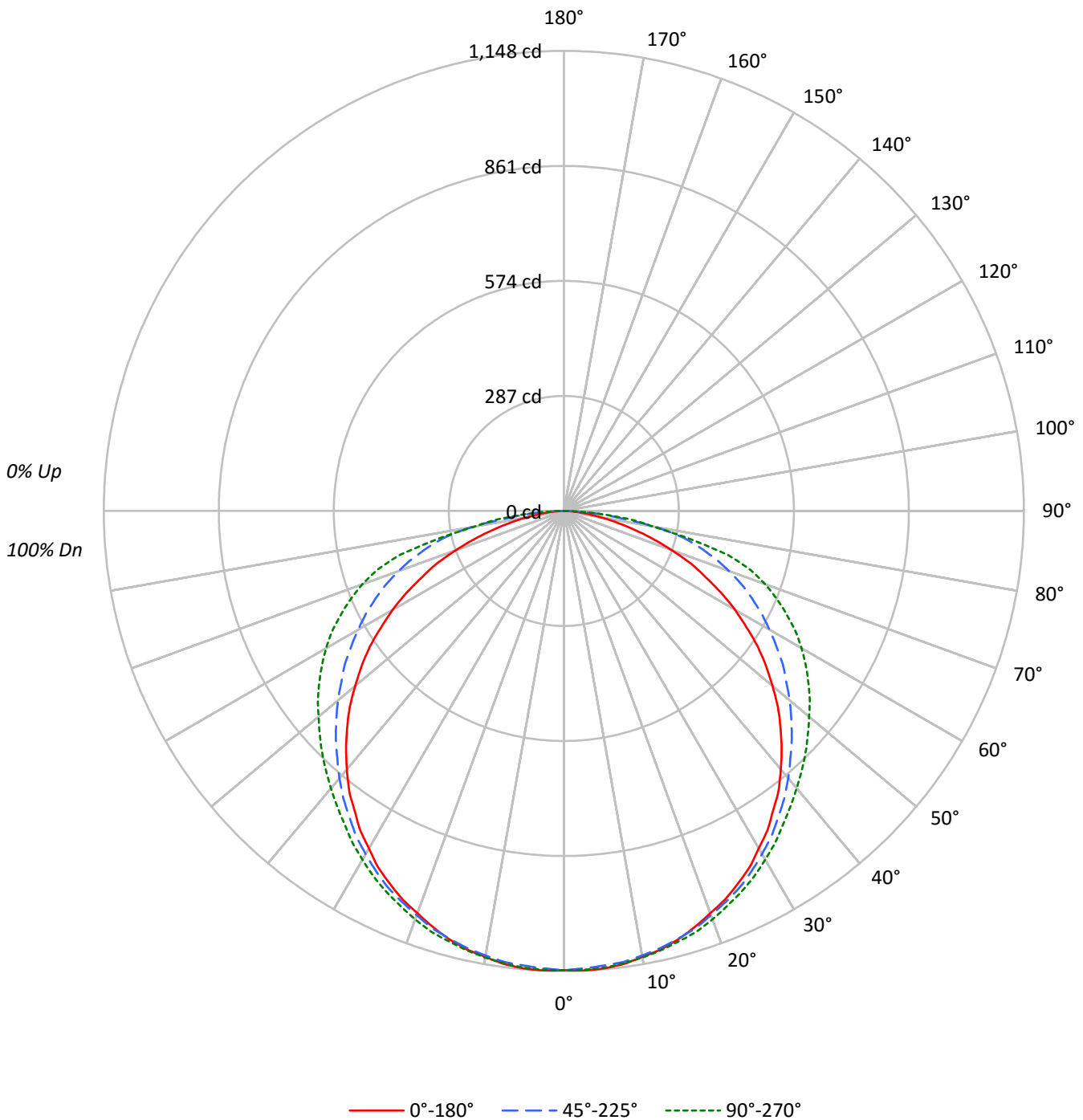
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1542	1542	1542
5°	1548	1538	1545
10°	1543	1539	1546
15°	1541	1538	1548
20°	1529	1537	1553
25°	1524	1540	1556
30°	1511	1536	1561
35°	1496	1532	1567
40°	1479	1530	1587
45°	1455	1530	1623
50°	1423	1540	1672
55°	1386	1565	1747
60°	1328	1595	1843
65°	1243	1651	1956
70°	1131	1728	2105
75°	959	1823	2198
80°	756	1835	1778
85°	557	1396	1562



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.7	3.0
10°-20°	312.8	8.6
20°-30°	478.4	13.1
30°-40°	584.8	16.0
40°-50°	623.3	17.1
50°-60°	596.0	16.4
60°-70°	504.9	13.9
70°-80°	339.3	9.3
80°-90°	95.7	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°	899.9	24.7
0°-40°	1484.8	40.7
0°-60°	2704.1	74.2
0°-90°	3644.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3644.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1146	1146	1146	1146	1146	
5°	1146	1144	1139	1144	1144	109
15°	1106	1106	1104	1113	1112	312
25°	1027	1030	1038	1046	1048	473
35°	911	918	933	951	954	571
45°	765	777	804	839	853	590
55°	591	613	667	719	745	526
65°	390	430	519	587	614	388
75°	184	251	351	410	423	197
85°	36	74	90	98	101	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1145.9	1145.9	1145.9	1145.9	1145.9
2.5°	1147.7	1147.7	1142.3	1145.9	1145.9
5°	1145.9	1144.1	1138.7	1144.1	1144.1
7.5°	1140.5	1138.7	1135.1	1140.5	1138.7
10°	1129.7	1129.7	1126.1	1131.5	1131.5
12.5°	1120.6	1118.8	1117.0	1124.2	1122.4
15°	1106.2	1106.2	1104.4	1113.4	1111.6
17.5°	1088.1	1089.9	1091.7	1098.9	1100.7
20°	1068.2	1071.8	1073.6	1084.5	1084.5
22.5°	1050.1	1051.9	1055.6	1066.4	1066.4
25°	1026.6	1030.3	1037.5	1046.5	1048.3
27.5°	1003.1	1005.0	1014.0	1026.6	1028.4
30°	972.4	977.8	988.7	1003.1	1005.0
32.5°	945.3	950.7	963.4	977.8	981.5
35°	911.0	918.2	932.7	950.7	954.3
37.5°	880.2	885.7	903.7	923.6	929.0
40°	842.3	853.1	871.2	894.7	903.7
42.5°	804.3	815.2	836.9	867.6	878.4
45°	764.6	777.2	804.3	838.7	853.1
47.5°	724.8	739.3	770.0	809.7	826.0
50°	679.6	697.7	735.6	780.8	798.9
52.5°	636.2	657.9	699.5	750.1	773.6
55°	591.0	612.7	667.0	719.4	744.7
57.5°	540.4	569.4	629.0	688.6	715.8
60°	493.4	520.6	592.8	657.9	685.0
62.5°	442.8	479.0	556.7	625.4	652.5
65°	390.4	430.2	518.7	587.4	614.5
67.5°	343.4	386.8	480.8	549.5	576.6
70°	287.4	341.6	439.2	507.9	535.0
72.5°	235.0	294.6	395.8	462.7	488.0
75°	184.4	251.2	350.6	410.3	422.9
77.5°	137.4	207.9	303.7	329.0	319.9
80°	97.6	166.3	236.8	224.1	229.5
82.5°	63.3	126.5	146.4	166.3	171.7
85°	36.1	74.1	90.4	97.6	101.2
87.5°	16.3	27.1	36.1	36.1	34.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)