

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: P313714

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CP250-W2A-U-5000K**

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: P313714
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-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 5000K 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: 3649.0 lumens
Efficiency: N/A
Efficacy: 73.1 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

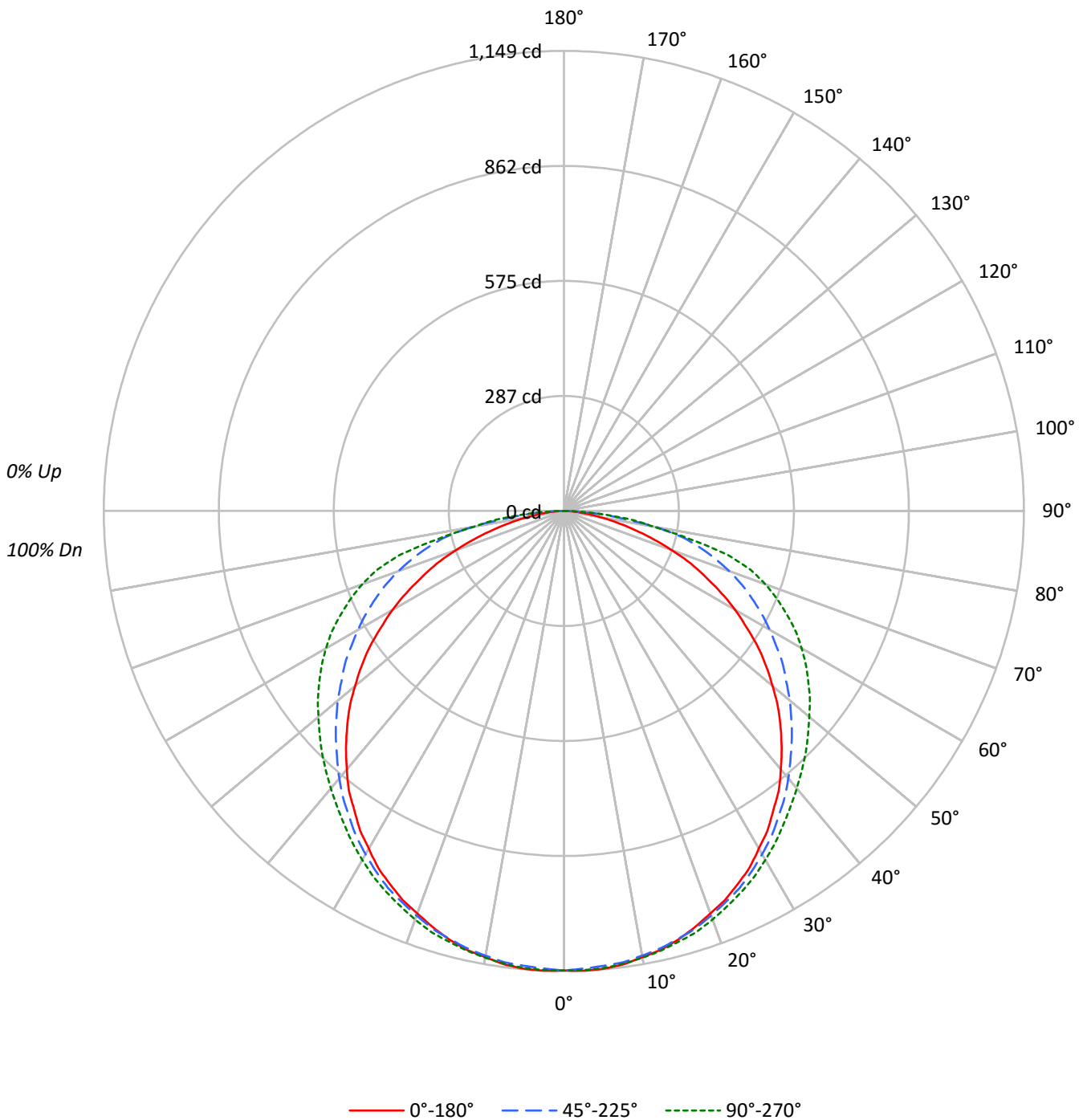
Input Watts (W): 49.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1544	1544	1544
5°	1550	1540	1547
10°	1545	1541	1548
15°	1543	1540	1550
20°	1532	1539	1555
25°	1526	1542	1559
30°	1513	1538	1563
35°	1498	1534	1570
40°	1481	1532	1590
45°	1457	1533	1626
50°	1424	1542	1675
55°	1388	1567	1749
60°	1330	1598	1846
65°	1245	1654	1959
70°	1132	1730	2107
75°	960	1825	2202
80°	757	1837	1781
85°	559	1397	1565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.9	3.0
10°-20°	313.3	8.6
20°-30°	479.1	13.1
30°-40°	585.6	16.0
40°-50°	624.2	17.1
50°-60°	596.8	16.4
60°-70°	505.6	13.9
70°-80°	339.8	9.3
80°-90°	95.8	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°	901.2	24.7
0°-40°	1486.8	40.7
0°-60°	2707.8	74.2
0°-90°	3649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3649.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1148	1148	1148	1148	1148	
5°	1148	1146	1140	1146	1146	109
15°	1108	1108	1106	1115	1113	312
25°	1028	1032	1039	1048	1050	474
35°	912	920	934	952	956	571
45°	766	778	805	840	854	591
55°	592	614	668	720	746	527
65°	391	431	520	588	615	388
75°	185	252	351	411	424	198
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°	1147.5	1147.5	1147.5	1147.5	1147.5
2.5°	1149.3	1149.3	1143.9	1147.5	1147.5
5°	1147.5	1145.7	1140.3	1145.7	1145.7
7.5°	1142.1	1140.3	1136.6	1142.1	1140.3
10°	1131.2	1131.2	1127.6	1133.0	1133.0
12.5°	1122.2	1120.4	1118.5	1125.8	1124.0
15°	1107.7	1107.7	1105.9	1114.9	1113.1
17.5°	1089.6	1091.4	1093.2	1100.4	1102.3
20°	1069.7	1073.3	1075.1	1086.0	1086.0
22.5°	1051.6	1053.4	1057.0	1067.9	1067.9
25°	1028.0	1031.7	1038.9	1048.0	1049.8
27.5°	1004.5	1006.3	1015.4	1028.0	1029.9
30°	973.8	979.2	990.0	1004.5	1006.3
32.5°	946.6	952.0	964.7	979.2	982.8
35°	912.2	919.5	933.9	952.0	955.7
37.5°	881.4	886.9	905.0	924.9	930.3
40°	843.4	854.3	872.4	895.9	905.0
42.5°	805.4	816.3	838.0	868.8	879.6
45°	765.6	778.3	805.4	839.8	854.3
47.5°	725.8	740.3	771.0	810.9	827.1
50°	680.5	698.6	736.6	781.9	800.0
52.5°	637.1	658.8	700.4	751.1	774.7
55°	591.9	613.6	667.9	720.4	745.7
57.5°	541.2	570.1	629.9	689.6	716.7
60°	494.1	521.3	593.7	658.8	686.0
62.5°	443.4	479.6	557.5	626.2	653.4
65°	390.9	430.8	519.5	588.2	615.4
67.5°	343.9	387.3	481.4	550.2	577.4
70°	287.8	342.1	439.8	508.6	535.7
72.5°	235.3	295.0	396.4	463.3	488.7
75°	184.6	251.6	351.1	410.9	423.5
77.5°	137.6	208.1	304.1	329.4	320.4
80°	97.7	166.5	237.1	224.4	229.9
82.5°	63.3	126.7	146.6	166.5	171.9
85°	36.2	74.2	90.5	97.7	101.4
87.5°	16.3	27.1	36.2	36.2	34.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)