

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: P313712

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-RDP-CP250-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: P313712
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-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" 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: 3614.0 lumens
Efficiency: N/A
Efficacy: 74.2 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

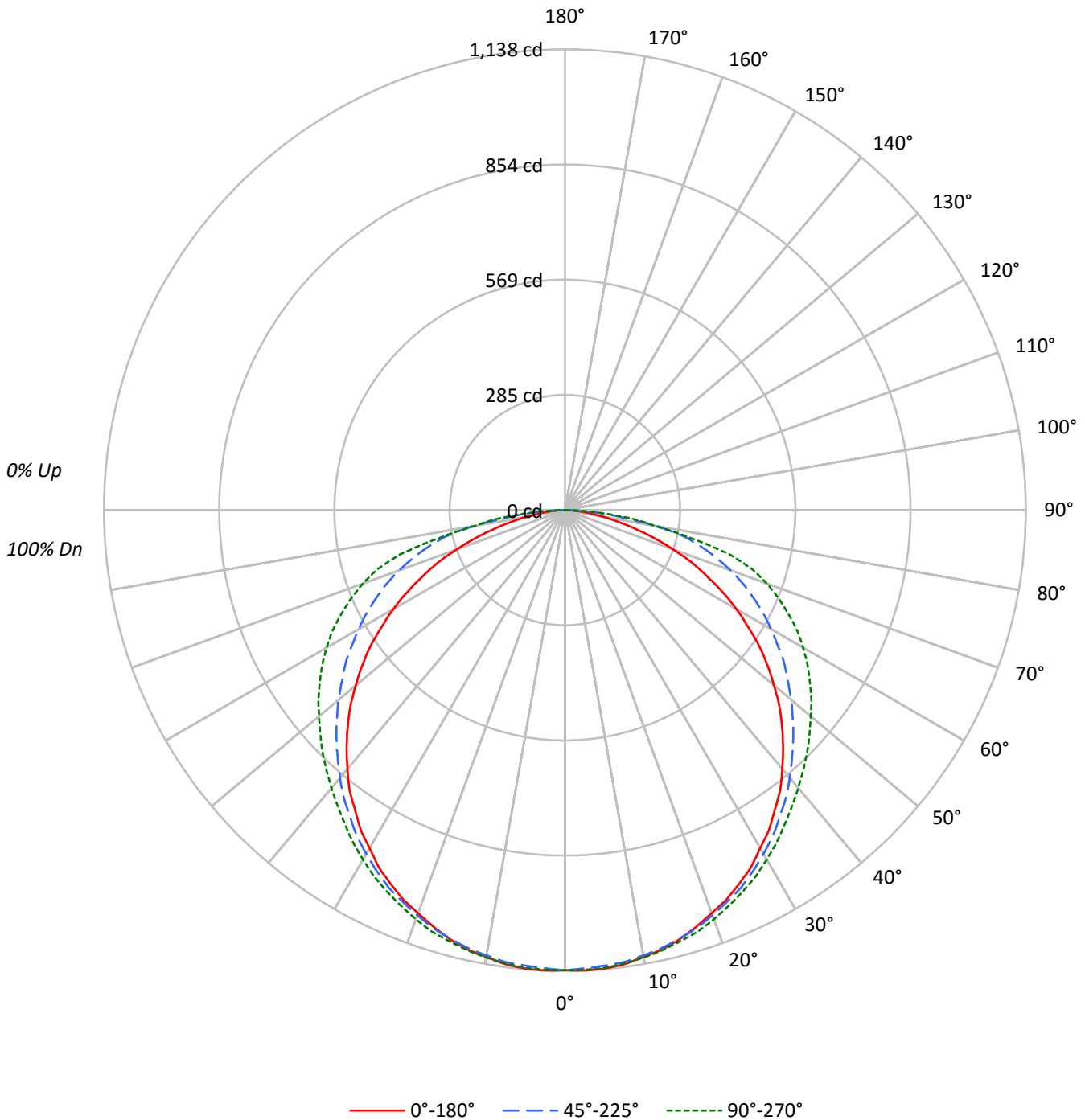
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1529	1529	1529
5°	1535	1525	1533
10°	1531	1526	1533
15°	1528	1526	1536
20°	1517	1525	1540
25°	1512	1527	1544
30°	1498	1523	1549
35°	1484	1519	1555
40°	1467	1518	1574
45°	1443	1518	1610
50°	1411	1527	1658
55°	1375	1552	1732
60°	1317	1582	1828
65°	1233	1638	1940
70°	1121	1714	2087
75°	950	1808	2181
80°	750	1819	1764
85°	554	1383	1550



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.8	3.0
10°-20°	310.3	8.6
20°-30°	474.5	13.1
30°-40°	580.0	16.0
40°-50°	618.2	17.1
50°-60°	591.1	16.4
60°-70°	500.7	13.9
70°-80°	336.5	9.3
80°-90°	94.9	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°	892.5	24.7
0°-40°	1472.6	40.7
0°-60°	2681.8	74.2
0°-90°	3614.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3614.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1136	1136	1136	1136	1136	
5°	1136	1135	1129	1135	1135	108
15°	1097	1097	1095	1104	1102	309
25°	1018	1022	1029	1038	1040	469
35°	904	911	925	943	946	566
45°	758	771	798	832	846	585
55°	586	608	662	713	738	522
65°	387	427	514	583	610	384
75°	183	249	348	407	420	196
85°	36	74	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°	1136.5	1136.5	1136.5	1136.5	1136.5
2.5°	1138.3	1138.3	1132.9	1136.5	1136.5
5°	1136.5	1134.7	1129.3	1134.7	1134.7
7.5°	1131.1	1129.3	1125.7	1131.1	1129.3
10°	1120.4	1120.4	1116.8	1122.2	1122.2
12.5°	1111.4	1109.6	1107.8	1115.0	1113.2
15°	1097.1	1097.1	1095.3	1104.2	1102.4
17.5°	1079.1	1080.9	1082.7	1089.9	1091.7
20°	1059.4	1063.0	1064.8	1075.6	1075.6
22.5°	1041.5	1043.3	1046.9	1057.6	1057.6
25°	1018.2	1021.8	1028.9	1037.9	1039.7
27.5°	994.9	996.7	1005.6	1018.2	1020.0
30°	964.4	969.8	980.5	994.9	996.7
32.5°	937.5	942.9	955.4	969.8	973.4
35°	903.5	910.6	925.0	942.9	946.5
37.5°	873.0	878.4	896.3	916.0	921.4
40°	835.3	846.1	864.0	887.3	896.3
42.5°	797.7	808.5	830.0	860.4	871.2
45°	758.3	770.8	797.7	831.8	846.1
47.5°	718.8	733.2	763.6	803.1	819.2
50°	674.0	691.9	729.6	774.4	792.3
52.5°	631.0	652.5	693.7	743.9	767.2
55°	586.2	607.7	661.5	713.4	738.5
57.5°	536.0	564.7	623.8	683.0	709.9
60°	489.4	516.3	588.0	652.5	679.4
62.5°	439.2	475.0	552.1	620.2	647.1
65°	387.2	426.6	514.5	582.6	609.5
67.5°	340.6	383.6	476.8	544.9	571.8
70°	285.0	338.8	435.6	503.7	530.6
72.5°	233.0	292.2	392.6	458.9	484.0
75°	182.8	249.2	347.8	406.9	419.5
77.5°	136.2	206.1	301.2	326.3	317.3
80°	96.8	164.9	234.8	222.3	227.7
82.5°	62.7	125.5	145.2	164.9	170.3
85°	35.9	73.5	89.6	96.8	100.4
87.5°	16.1	26.9	35.9	35.9	34.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)