

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: P313637

Luminaire Tested: **24FCZ2-50HE-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: P313637
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: 24FCZ2-50HE-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: 3012.0 lumens
Efficiency: N/A
Efficacy: 76.6 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

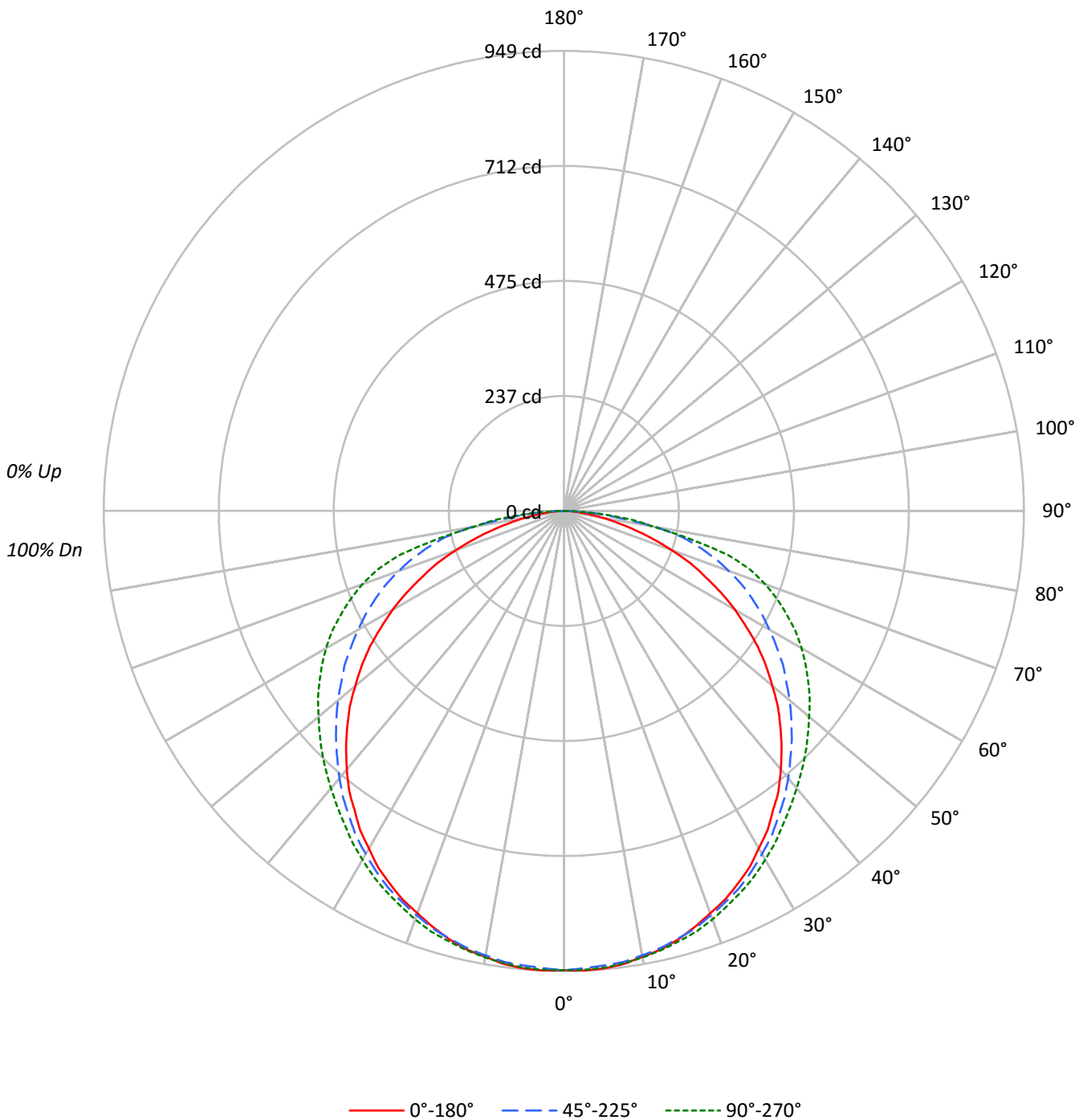
Input Watts (W): 39.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1274	1274	1274
5°	1279	1271	1277
10°	1276	1272	1278
15°	1274	1271	1280
20°	1264	1271	1284
25°	1260	1273	1286
30°	1249	1270	1291
35°	1237	1266	1296
40°	1223	1265	1312
45°	1203	1265	1342
50°	1176	1273	1382
55°	1146	1293	1444
60°	1098	1319	1524
65°	1027	1365	1617
70°	934	1428	1740
75°	792	1507	1817
80°	625	1516	1470
85°	462	1153	1292



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.8	3.0
10°-20°	258.6	8.6
20°-30°	395.4	13.1
30°-40°	483.4	16.0
40°-50°	515.2	17.1
50°-60°	492.6	16.4
60°-70°	417.3	13.9
70°-80°	280.5	9.3
80°-90°	79.1	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°	743.9	24.7
0°-40°	1227.3	40.7
0°-60°	2235.1	74.2
0°-90°	3012.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3012.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	947	947	947	947	947	
5°	947	946	941	946	946	90
15°	914	914	913	920	919	258
25°	849	852	858	865	866	391
35°	753	759	771	786	789	472
45°	632	642	665	693	705	487
55°	488	506	551	595	616	435
65°	323	356	429	486	508	320
75°	152	208	290	339	350	163
85°	30	61	75	81	84	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	947.2	947.2	947.2	947.2	947.2
2.5°	948.7	948.7	944.2	947.2	947.2
5°	947.2	945.7	941.2	945.7	945.7
7.5°	942.7	941.2	938.2	942.7	941.2
10°	933.7	933.7	930.8	935.2	935.2
12.5°	926.3	924.8	923.3	929.3	927.8
15°	914.3	914.3	912.8	920.3	918.8
17.5°	899.4	900.9	902.4	908.3	909.8
20°	882.9	885.9	887.4	896.4	896.4
22.5°	868.0	869.5	872.5	881.5	881.5
25°	848.6	851.6	857.5	865.0	866.5
27.5°	829.2	830.7	838.1	848.6	850.1
30°	803.8	808.2	817.2	829.2	830.7
32.5°	781.4	785.8	796.3	808.2	811.2
35°	753.0	758.9	770.9	785.8	788.8
37.5°	727.6	732.1	747.0	763.4	767.9
40°	696.2	705.2	720.1	739.5	747.0
42.5°	664.8	673.8	691.7	717.1	726.1
45°	632.0	642.4	664.8	693.2	705.2
47.5°	599.1	611.0	636.4	669.3	682.8
50°	561.7	576.7	608.1	645.4	660.3
52.5°	525.9	543.8	578.2	620.0	639.4
55°	488.5	506.5	551.3	594.6	615.5
57.5°	446.7	470.6	519.9	569.2	591.6
60°	407.9	430.3	490.0	543.8	566.2
62.5°	366.0	395.9	460.1	516.9	539.3
65°	322.7	355.6	428.8	485.5	508.0
67.5°	283.9	319.7	397.4	454.2	476.6
70°	237.5	282.4	363.0	419.8	442.2
72.5°	194.2	243.5	327.2	382.5	403.4
75°	152.4	207.7	289.8	339.1	349.6
77.5°	113.5	171.8	251.0	271.9	264.4
80°	80.7	137.4	195.7	185.3	189.7
82.5°	52.3	104.6	121.0	137.4	141.9
85°	29.9	61.3	74.7	80.7	83.7
87.5°	13.4	22.4	29.9	29.9	28.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)