

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: P310206

Luminaire Tested: **24FCZ2-50HE-UNV-L82765-RDP-CP187-W2A-U-4500K**

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: P310206
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-L82765-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 2938.0 lumens
Efficiency: N/A
Efficacy: 75.1 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

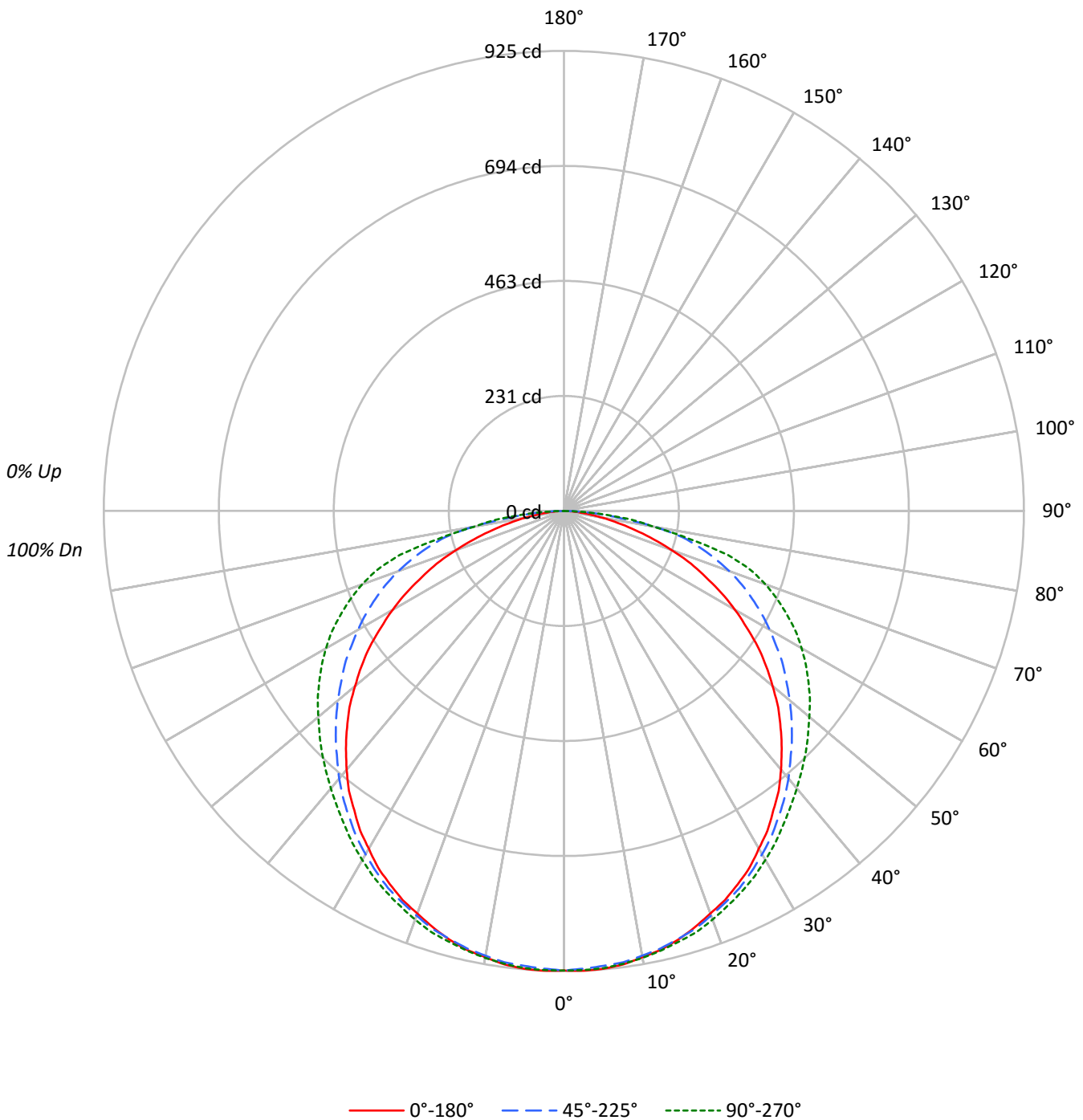
Input Watts (W): 39.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1243	1243	1243
5°	1248	1240	1246
10°	1244	1240	1246
15°	1242	1240	1248
20°	1233	1239	1252
25°	1229	1242	1255
30°	1218	1238	1259
35°	1206	1235	1264
40°	1193	1234	1280
45°	1173	1234	1309
50°	1147	1241	1348
55°	1118	1261	1408
60°	1070	1286	1486
65°	1002	1331	1578
70°	911	1393	1697
75°	773	1470	1773
80°	610	1479	1434
85°	449	1125	1260



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	3.0
10°-20°	252.2	8.6
20°-30°	385.7	13.1
30°-40°	471.5	16.0
40°-50°	502.6	17.1
50°-60°	480.5	16.4
60°-70°	407.0	13.9
70°-80°	273.6	9.3
80°-90°	77.2	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°	725.6	24.7
0°-40°	1197.1	40.7
0°-60°	2180.2	74.2
0°-90°	2938.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2938.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	924	922	918	922	922	88
15°	892	892	890	898	896	251
25°	828	831	836	844	845	382
35°	734	740	752	766	769	460
45°	616	627	648	676	688	475
55°	476	494	538	580	600	424
65°	315	347	418	474	496	312
75°	149	203	283	331	341	159
85°	29	60	73	79	82	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	923.9	923.9	923.9	923.9	923.9
2.5°	925.4	925.4	921.0	923.9	923.9
5°	923.9	922.5	918.1	922.5	922.5
7.5°	919.5	918.1	915.2	919.5	918.1
10°	910.8	910.8	907.9	912.3	912.3
12.5°	903.5	902.1	900.6	906.4	905.0
15°	891.9	891.9	890.4	897.7	896.2
17.5°	877.3	878.7	880.2	886.0	887.5
20°	861.3	864.2	865.6	874.4	874.4
22.5°	846.7	848.1	851.1	859.8	859.8
25°	827.7	830.7	836.5	843.8	845.2
27.5°	808.8	810.2	817.5	827.7	829.2
30°	784.0	788.4	797.1	808.8	810.2
32.5°	762.2	766.5	776.7	788.4	791.3
35°	734.5	740.3	752.0	766.5	769.4
37.5°	709.7	714.1	728.6	744.7	749.0
40°	679.1	687.8	702.4	721.4	728.6
42.5°	648.5	657.2	674.7	699.5	708.2
45°	616.4	626.6	648.5	676.2	687.8
47.5°	584.4	596.0	620.8	652.9	666.0
50°	547.9	562.5	593.1	629.5	644.1
52.5°	513.0	530.5	564.0	604.8	623.7
55°	476.5	494.0	537.7	580.0	600.4
57.5°	435.7	459.0	507.1	555.2	577.1
60°	397.8	419.7	478.0	530.5	552.3
62.5°	357.0	386.2	448.8	504.2	526.1
65°	314.8	346.8	418.2	473.6	495.5
67.5°	276.9	311.9	387.6	443.0	464.9
70°	231.7	275.4	354.1	409.5	431.4
72.5°	189.4	237.5	319.1	373.1	393.5
75°	148.6	202.6	282.7	330.8	341.0
77.5°	110.8	167.6	244.8	265.2	257.9
80°	78.7	134.1	190.9	180.7	185.1
82.5°	51.0	102.0	118.0	134.1	138.4
85°	29.1	59.7	72.9	78.7	81.6
87.5°	13.1	21.9	29.1	29.1	27.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)