

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: P313608

Luminaire Tested: **24FCZ2-45-UNV-L83050-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: P313608
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: 24FCZ2-45-UNV-L83050-RDP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 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: 2764.0 lumens
Efficiency: N/A
Efficacy: 70.2 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

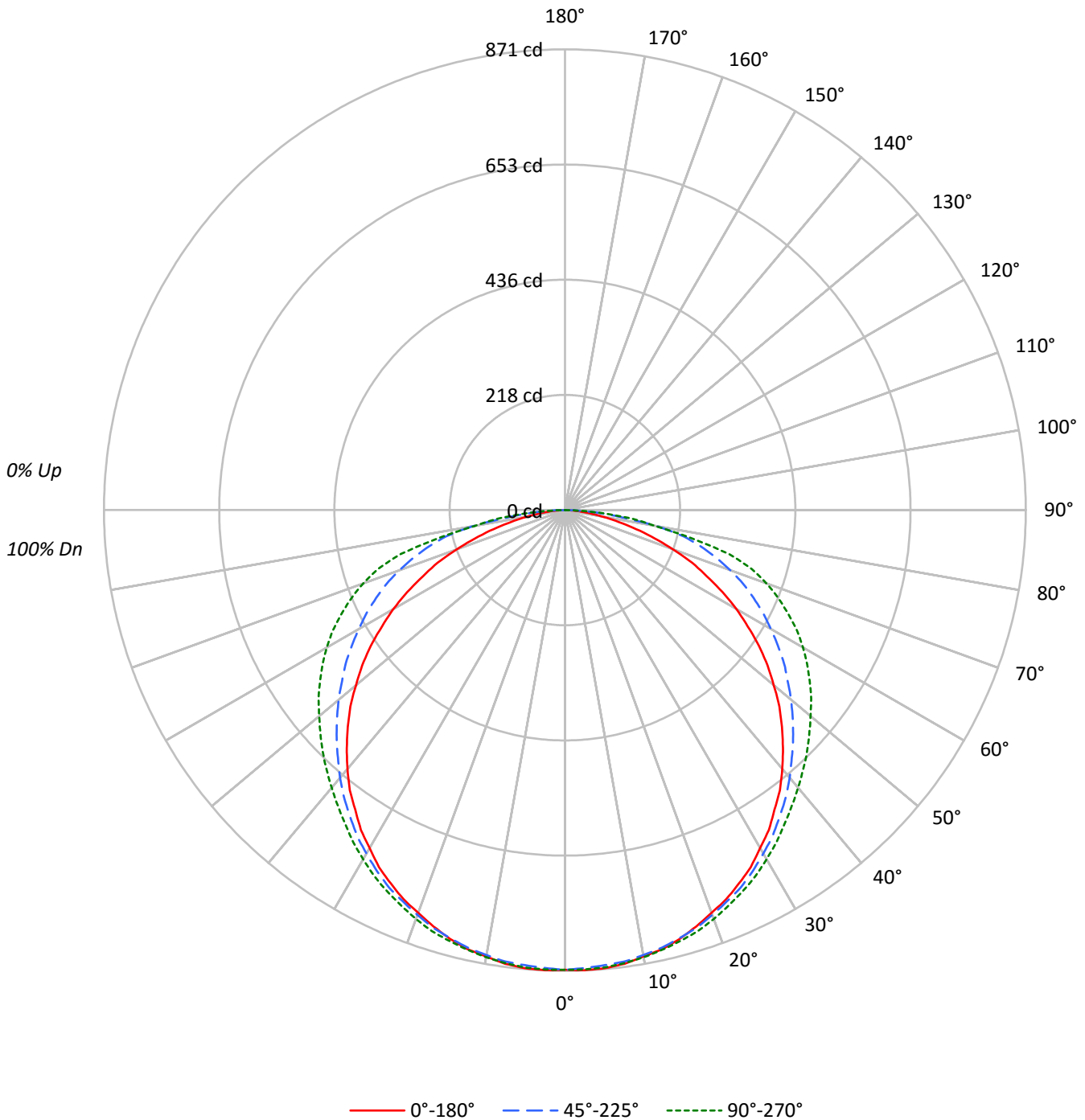
Input Watts (W): 39.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1169	1169	1169
5°	1174	1167	1172
10°	1171	1167	1173
15°	1169	1167	1175
20°	1160	1166	1178
25°	1156	1168	1181
30°	1146	1165	1184
35°	1135	1162	1189
40°	1122	1161	1204
45°	1103	1161	1231
50°	1079	1168	1268
55°	1052	1187	1325
60°	1007	1210	1398
65°	943	1253	1484
70°	858	1310	1596
75°	727	1383	1668
80°	573	1392	1349
85°	423	1057	1186



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.5	3.0
10°-20°	237.3	8.6
20°-30°	362.9	13.1
30°-40°	443.6	16.0
40°-50°	472.8	17.1
50°-60°	452.1	16.4
60°-70°	383.0	13.9
70°-80°	257.4	9.3
80°-90°	72.6	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°	682.6	24.7
0°-40°	1126.2	40.7
0°-60°	2051.1	74.2
0°-90°	2764.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2764.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	869	869	869	869	869	
5°	869	868	864	868	868	83
15°	839	839	838	844	843	237
25°	779	782	787	794	795	359
35°	691	696	707	721	724	433
45°	580	590	610	636	647	447
55°	448	465	506	546	565	399
65°	296	326	394	446	466	294
75°	140	191	266	311	321	150
85°	27	56	68	74	77	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	869.2	869.2	869.2	869.2	869.2
2.5°	870.6	870.6	866.5	869.2	869.2
5°	869.2	867.8	863.7	867.8	867.8
7.5°	865.1	863.7	861.0	865.1	863.7
10°	856.9	856.9	854.1	858.2	858.2
12.5°	850.0	848.6	847.3	852.7	851.4
15°	839.0	839.0	837.7	844.5	843.2
17.5°	825.3	826.7	828.1	833.6	834.9
20°	810.2	813.0	814.4	822.6	822.6
22.5°	796.5	797.9	800.7	808.9	808.9
25°	778.7	781.5	786.9	793.8	795.2
27.5°	760.9	762.3	769.1	778.7	780.1
30°	737.6	741.7	749.9	760.9	762.3
32.5°	717.0	721.1	730.7	741.7	744.4
35°	691.0	696.5	707.4	721.1	723.9
37.5°	667.7	671.8	685.5	700.6	704.7
40°	638.9	647.1	660.8	678.6	685.5
42.5°	610.1	618.3	634.8	658.1	666.3
45°	579.9	589.5	610.1	636.1	647.1
47.5°	549.8	560.7	584.0	614.2	626.5
50°	515.5	529.2	558.0	592.3	606.0
52.5°	482.6	499.0	530.6	569.0	586.8
55°	448.3	464.8	505.9	545.6	564.8
57.5°	409.9	431.9	477.1	522.3	542.9
60°	374.3	394.8	449.7	499.0	519.6
62.5°	335.9	363.3	422.3	474.4	494.9
65°	296.1	326.3	393.5	445.6	466.1
67.5°	260.5	293.4	364.7	416.8	437.3
70°	218.0	259.1	333.1	385.2	405.8
72.5°	178.2	223.5	300.2	351.0	370.2
75°	139.8	190.6	266.0	311.2	320.8
77.5°	104.2	157.7	230.3	249.5	242.7
80°	74.0	126.1	179.6	170.0	174.1
82.5°	48.0	96.0	111.0	126.1	130.2
85°	27.4	56.2	68.5	74.0	76.8
87.5°	12.3	20.6	27.4	27.4	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)