

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: P313541

Luminaire Tested: **24FCZ2-40-UNV-L83050-RDP-CA08-W2A-U-3500K**

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: P313541
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: 24FCZ2-40-UNV-L83050-RDP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET
Light Source: (168) 3500K 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: 2489.0 lumens
Efficiency: N/A
Efficacy: 76.1 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

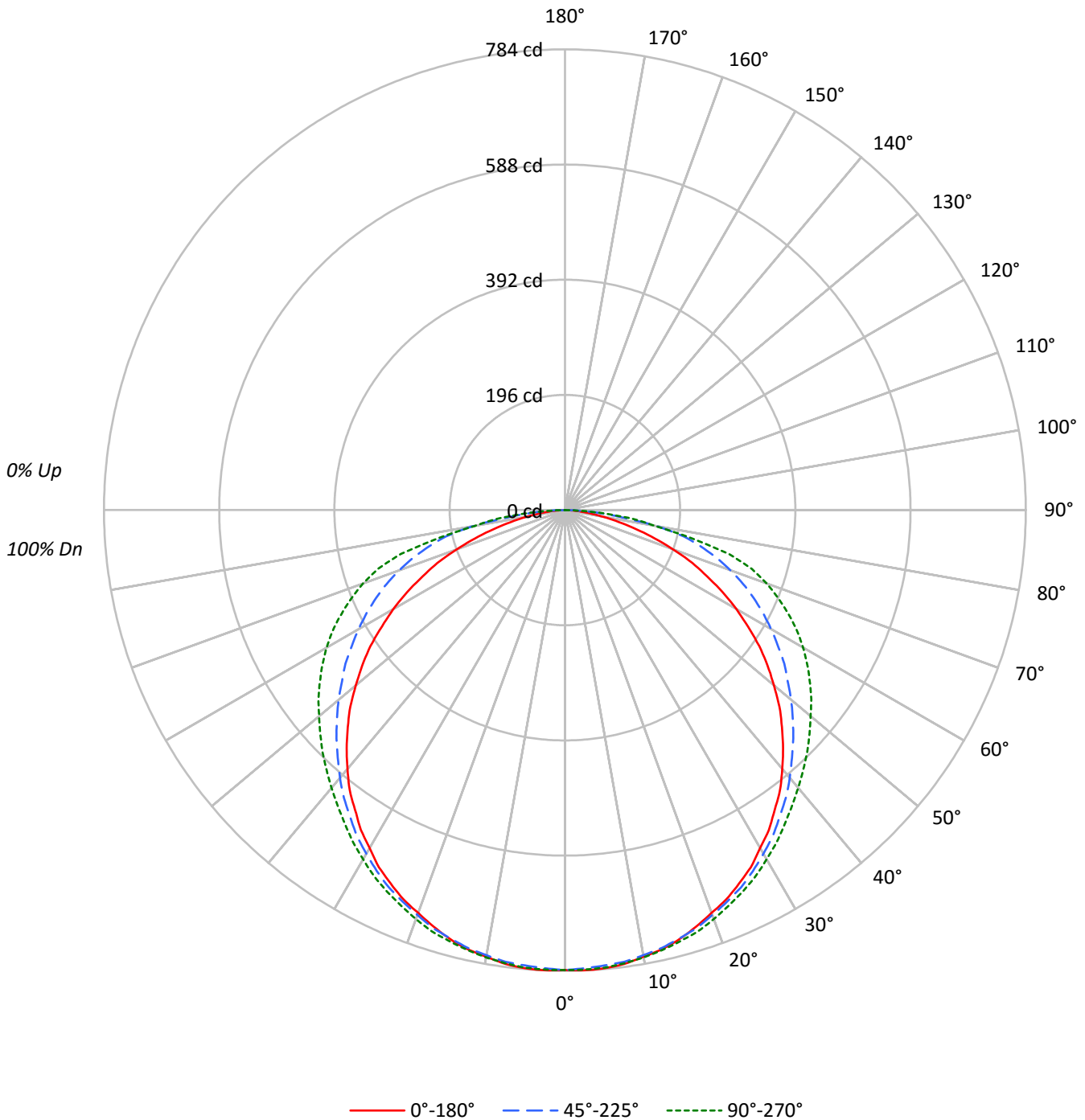
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1053	1053	1053
5°	1057	1051	1056
10°	1054	1051	1056
15°	1053	1051	1058
20°	1045	1050	1061
25°	1041	1052	1063
30°	1032	1049	1066
35°	1022	1046	1071
40°	1010	1045	1084
45°	994	1045	1109
50°	972	1052	1142
55°	947	1069	1193
60°	907	1090	1259
65°	849	1128	1337
70°	772	1180	1437
75°	655	1245	1502
80°	517	1253	1215
85°	381	953	1067



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.2	3.0
10°-20°	213.7	8.6
20°-30°	326.8	13.1
30°-40°	399.5	16.0
40°-50°	425.8	17.1
50°-60°	407.1	16.4
60°-70°	344.8	13.9
70°-80°	231.8	9.3
80°-90°	65.4	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°	614.7	24.7
0°-40°	1014.2	40.7
0°-60°	1847.0	74.2
0°-90°	2489.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2489.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	783	783	783	783	783	
5°	783	782	778	782	782	74
15°	756	756	754	760	759	213
25°	701	704	709	715	716	323
35°	622	627	637	649	652	390
45°	522	531	549	573	583	403
55°	404	418	456	491	509	360
65°	267	294	354	401	420	265
75°	126	172	240	280	289	135
85°	25	51	62	67	69	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	782.7	782.7	782.7	782.7	782.7
2.5°	784.0	784.0	780.3	782.7	782.7
5°	782.7	781.5	777.8	781.5	781.5
7.5°	779.0	777.8	775.3	779.0	777.8
10°	771.6	771.6	769.1	772.8	772.8
12.5°	765.4	764.2	763.0	767.9	766.7
15°	755.6	755.6	754.3	760.5	759.3
17.5°	743.2	744.4	745.7	750.6	751.9
20°	729.6	732.1	733.3	740.7	740.7
22.5°	717.3	718.5	721.0	728.4	728.4
25°	701.2	703.7	708.6	714.8	716.1
27.5°	685.2	686.4	692.6	701.2	702.5
30°	664.2	667.9	675.3	685.2	686.4
32.5°	645.7	649.4	658.0	667.9	670.4
35°	622.2	627.2	637.0	649.4	651.9
37.5°	601.2	604.9	617.3	630.9	634.6
40°	575.3	582.7	595.1	611.1	617.3
42.5°	549.4	556.8	571.6	592.6	600.0
45°	522.2	530.9	549.4	572.8	582.7
47.5°	495.1	504.9	525.9	553.1	564.2
50°	464.2	476.5	502.5	533.3	545.7
52.5°	434.6	449.4	477.8	512.3	528.4
55°	403.7	418.5	455.6	491.4	508.6
57.5°	369.1	388.9	429.6	470.4	488.9
60°	337.0	355.6	404.9	449.4	467.9
62.5°	302.5	327.2	380.2	427.2	445.7
65°	266.7	293.8	354.3	401.2	419.8
67.5°	234.6	264.2	328.4	375.3	393.8
70°	196.3	233.3	300.0	346.9	365.4
72.5°	160.5	201.2	270.4	316.1	333.3
75°	125.9	171.6	239.5	280.2	288.9
77.5°	93.8	142.0	207.4	224.7	218.5
80°	66.7	113.6	161.7	153.1	156.8
82.5°	43.2	86.4	100.0	113.6	117.3
85°	24.7	50.6	61.7	66.7	69.1
87.5°	11.1	18.5	24.7	24.7	23.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)