

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: P310078

Luminaire Tested: **24FCZ2-40-UNV-L82765-RDP-CP250-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: P310078
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-L82765-RDP-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB 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: 2256.0 lumens
Efficiency: N/A
Efficacy: 68.6 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

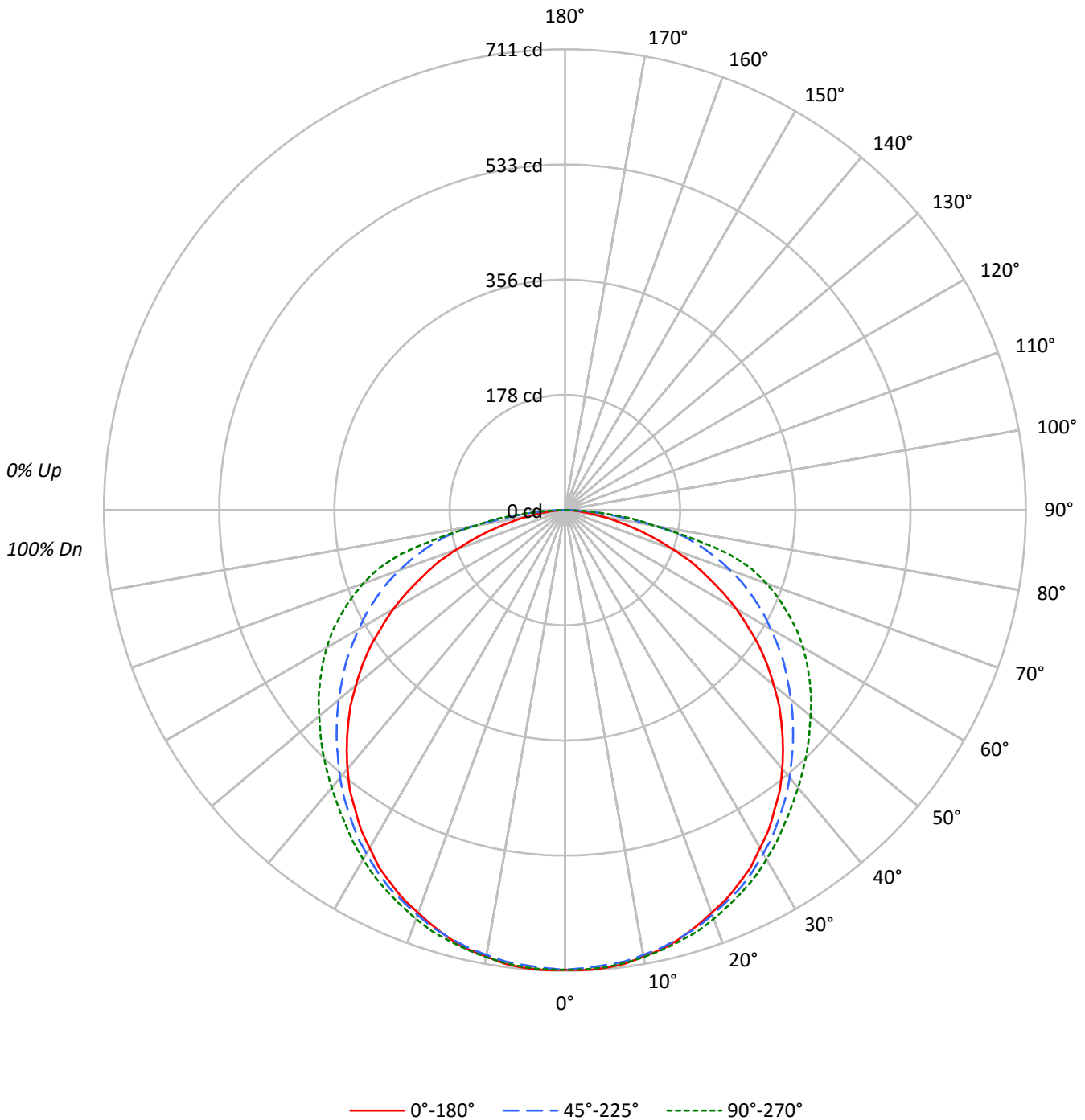
Input Watts (W): 32.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	954	954	954
5°	958	952	957
10°	956	952	957
15°	954	952	959
20°	947	952	961
25°	944	954	963
30°	935	951	967
35°	926	948	970
40°	916	947	983
45°	901	948	1005
50°	881	953	1035
55°	858	969	1081
60°	822	988	1141
65°	770	1023	1211
70°	700	1070	1303
75°	593	1129	1361
80°	468	1136	1101
85°	346	865	968



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	3.0
10°-20°	193.7	8.6
20°-30°	296.2	13.1
30°-40°	362.1	16.0
40°-50°	385.9	17.1
50°-60°	369.0	16.4
60°-70°	312.6	13.9
70°-80°	210.1	9.3
80°-90°	59.3	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°	557.2	24.7
0°-40°	919.2	40.7
0°-60°	1674.1	74.2
0°-90°	2256.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2256.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	709	709	709	709	709	
5°	709	708	705	708	708	67
15°	685	685	684	689	688	193
25°	636	638	642	648	649	293
35°	564	568	577	589	591	353
45°	473	481	498	519	528	365
55°	366	379	413	445	461	326
65°	242	266	321	364	380	240
75°	114	156	217	254	262	122
85°	22	46	56	60	63	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	709.4	709.4	709.4	709.4	709.4
2.5°	710.6	710.6	707.2	709.4	709.4
5°	709.4	708.3	705.0	708.3	708.3
7.5°	706.1	705.0	702.7	706.1	705.0
10°	699.4	699.4	697.1	700.5	700.5
12.5°	693.8	692.7	691.5	696.0	694.9
15°	684.8	684.8	683.7	689.3	688.2
17.5°	673.6	674.8	675.9	680.4	681.5
20°	661.3	663.6	664.7	671.4	671.4
22.5°	650.1	651.3	653.5	660.2	660.2
25°	635.6	637.8	642.3	647.9	649.0
27.5°	621.0	622.2	627.8	635.6	636.7
30°	602.0	605.4	612.1	621.0	622.2
32.5°	585.2	588.6	596.4	605.4	607.6
35°	564.0	568.5	577.4	588.6	590.8
37.5°	545.0	548.3	559.5	571.8	575.2
40°	521.5	528.2	539.4	553.9	559.5
42.5°	498.0	504.7	518.1	537.1	543.8
45°	473.3	481.2	498.0	519.2	528.2
47.5°	448.7	457.7	476.7	501.3	511.4
50°	420.7	431.9	455.4	483.4	494.6
52.5°	393.9	407.3	433.1	464.4	478.9
55°	365.9	379.3	412.9	445.4	461.0
57.5°	334.6	352.5	389.4	426.3	443.1
60°	305.5	322.3	367.0	407.3	424.1
62.5°	274.2	296.5	344.7	387.2	404.0
65°	241.7	266.3	321.2	363.7	380.5
67.5°	212.6	239.5	297.7	340.2	357.0
70°	177.9	211.5	271.9	314.4	331.2
72.5°	145.5	182.4	245.1	286.5	302.1
75°	114.1	155.5	217.1	254.0	261.8
77.5°	85.0	128.7	188.0	203.7	198.1
80°	60.4	102.9	146.6	138.8	142.1
82.5°	39.2	78.3	90.6	102.9	106.3
85°	22.4	45.9	56.0	60.4	62.7
87.5°	10.1	16.8	22.4	22.4	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)