

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: P309988

Luminaire Tested: **24FCZ2-35-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: P309988
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: 24FCZ2-35-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: 1983.0 lumens
Efficiency: N/A
Efficacy: 70.6 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

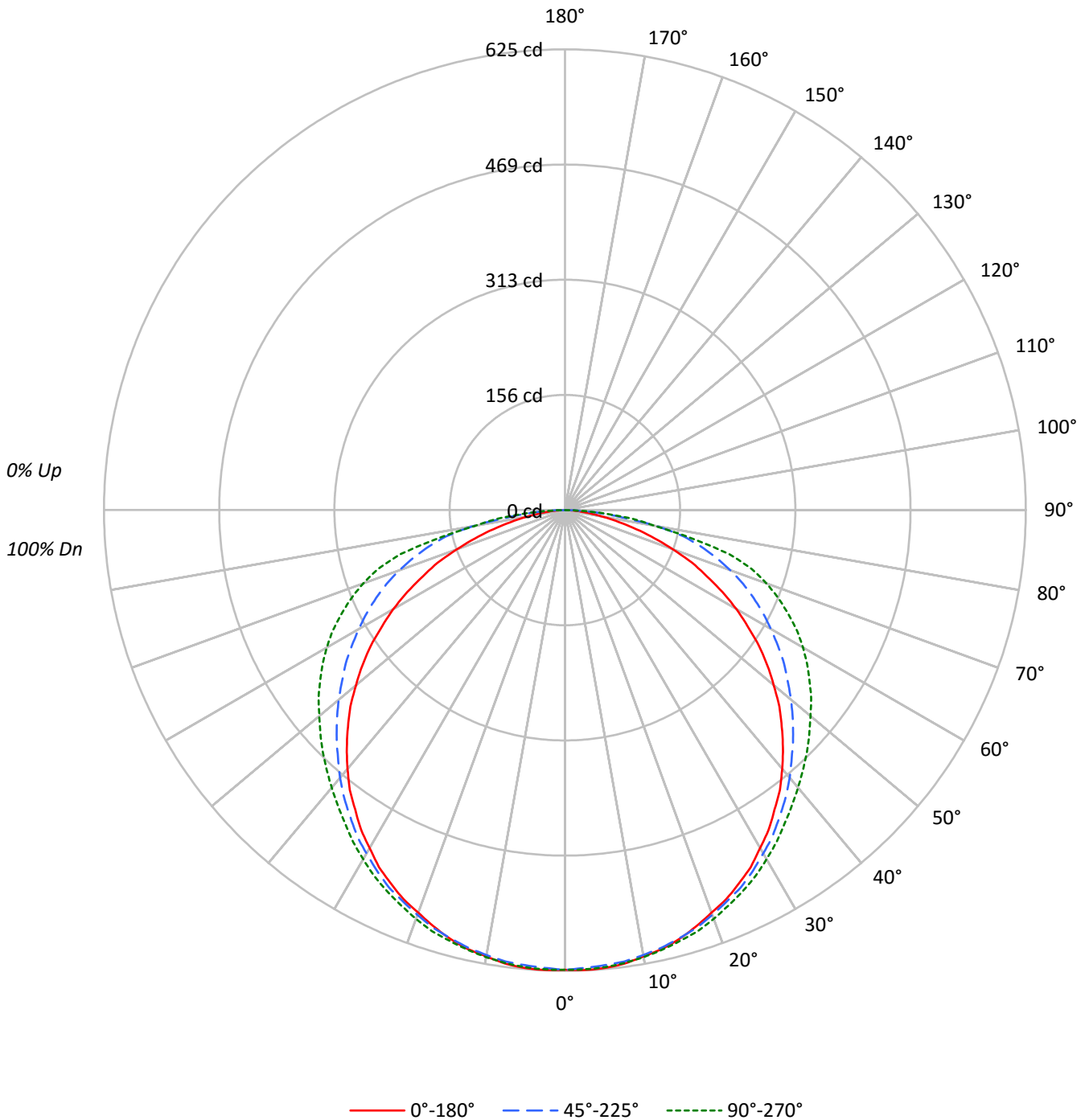
Input Watts (W): 28.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	839	839	839
5°	842	837	841
10°	840	837	841
15°	839	837	843
20°	832	837	845
25°	829	838	847
30°	822	836	850
35°	814	834	853
40°	805	833	864
45°	792	833	883
50°	774	838	910
55°	754	851	951
60°	723	868	1003
65°	677	899	1065
70°	615	940	1145
75°	521	992	1197
80°	411	999	968
85°	304	760	851



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.2	3.0
10°-20°	170.2	8.6
20°-30°	260.3	13.1
30°-40°	318.3	16.0
40°-50°	339.2	17.1
50°-60°	324.3	16.4
60°-70°	274.7	13.9
70°-80°	184.6	9.3
80°-90°	52.1	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°	489.7	24.7
0°-40°	808.0	40.7
0°-60°	1471.5	74.2
0°-90°	1983.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1983.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	624	623	620	623	623	59
15°	602	602	601	606	605	170
25°	559	561	565	570	570	258
35°	496	500	508	517	519	311
45°	416	423	438	456	464	321
55°	322	333	363	392	405	286
65°	212	234	282	320	334	211
75°	100	137	191	223	230	107
85°	20	40	49	53	55	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	623.6	623.6	623.6	623.6	623.6
2.5°	624.6	624.6	621.6	623.6	623.6
5°	623.6	622.6	619.7	622.6	622.6
7.5°	620.6	619.7	617.7	620.6	619.7
10°	614.7	614.7	612.8	615.7	615.7
12.5°	609.8	608.8	607.9	611.8	610.8
15°	602.0	602.0	601.0	605.9	604.9
17.5°	592.1	593.1	594.1	598.0	599.0
20°	581.3	583.3	584.3	590.2	590.2
22.5°	571.5	572.5	574.4	580.3	580.3
25°	558.7	560.6	564.6	569.5	570.5
27.5°	545.9	546.9	551.8	558.7	559.7
30°	529.2	532.1	538.0	545.9	546.9
32.5°	514.4	517.4	524.3	532.1	534.1
35°	495.7	499.7	507.5	517.4	519.3
37.5°	479.0	482.0	491.8	502.6	505.6
40°	458.4	464.3	474.1	486.9	491.8
42.5°	437.7	443.6	455.4	472.1	478.0
45°	416.1	422.9	437.7	456.4	464.3
47.5°	394.4	402.3	419.0	440.6	449.5
50°	369.8	379.7	400.3	424.9	434.7
52.5°	346.2	358.0	380.6	408.2	421.0
55°	321.6	333.4	362.9	391.5	405.2
57.5°	294.1	309.8	342.3	374.7	389.5
60°	268.5	283.3	322.6	358.0	372.8
62.5°	241.0	260.7	302.9	340.3	355.1
65°	212.5	234.1	282.3	319.7	334.4
67.5°	186.9	210.5	261.6	299.0	313.8
70°	156.4	185.9	239.0	276.4	291.1
72.5°	127.9	160.3	215.4	251.8	265.6
75°	100.3	136.7	190.8	223.3	230.2
77.5°	74.8	113.1	165.2	179.0	174.1
80°	53.1	90.5	128.9	122.0	124.9
82.5°	34.4	68.9	79.7	90.5	93.4
85°	19.7	40.3	49.2	53.1	55.1
87.5°	8.9	14.8	19.7	19.7	18.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)