

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: P309977

Luminaire Tested: **24FCZ2-35-UNV-L82765-RDP-CP187-W2A-U-2700K**

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: P309977
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-CP187-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (168) 2700K 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: 1878.0 lumens
Efficiency: N/A
Efficacy: 67.1 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

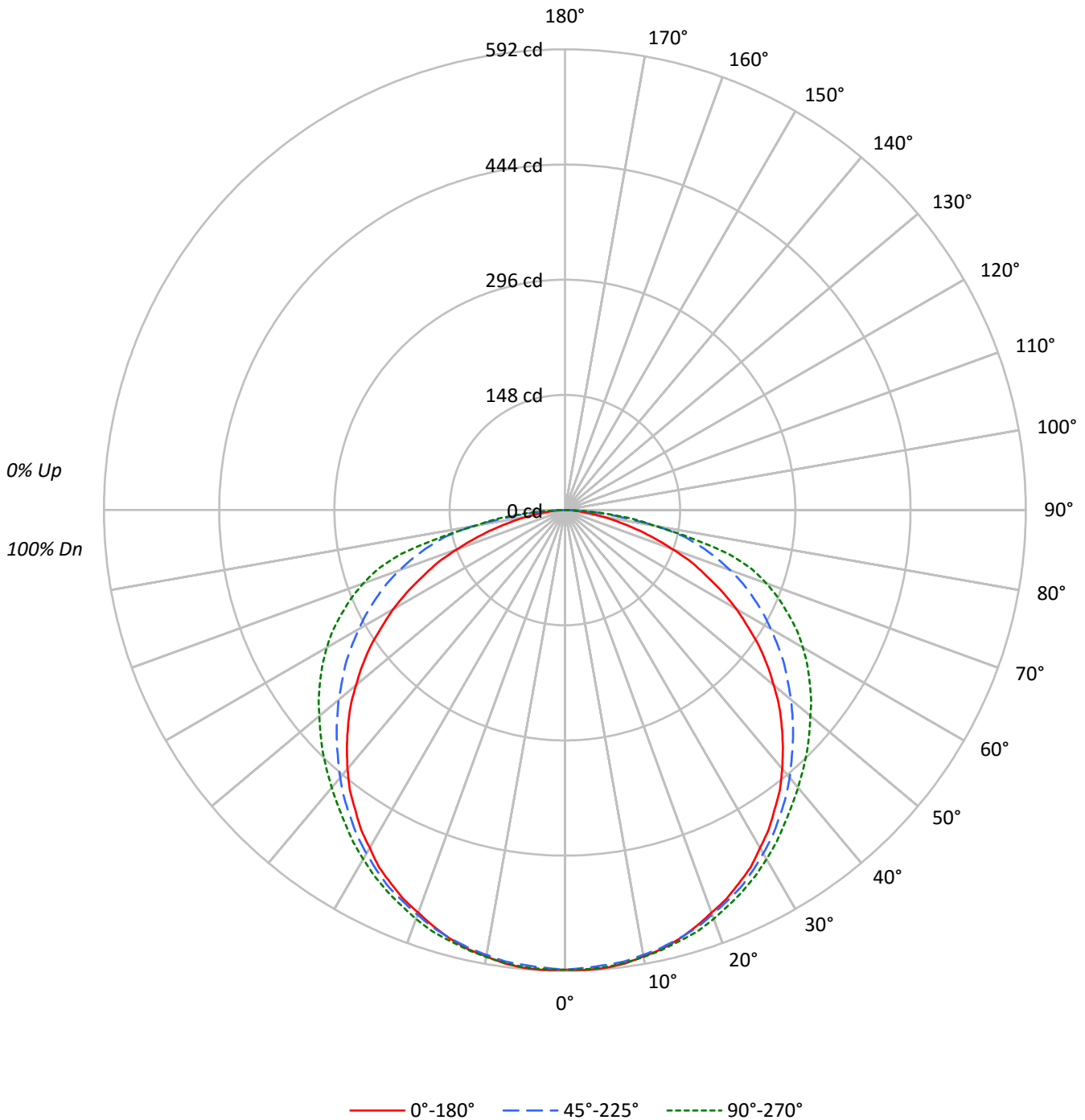
Input Watts (W): 28
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	795	795	795
5°	798	793	796
10°	795	793	797
15°	794	793	798
20°	788	792	800
25°	785	794	802
30°	779	792	805
35°	771	790	808
40°	762	789	818
45°	750	789	837
50°	733	794	862
55°	715	806	900
60°	684	822	950
65°	641	851	1008
70°	583	891	1085
75°	494	939	1133
80°	390	945	917
85°	287	719	806



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	56.0	3.0
10°-20°	161.2	8.6
20°-30°	246.6	13.1
30°-40°	301.4	16.0
40°-50°	321.2	17.1
50°-60°	307.1	16.4
60°-70°	260.2	13.9
70°-80°	174.9	9.3
80°-90°	49.3	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°	463.8	24.7
0°-40°	765.2	40.7
0°-60°	1393.6	74.2
0°-90°	1878.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1878.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	591	591	591	591	591	
5°	591	590	587	590	590	56
15°	570	570	569	574	573	161
25°	529	531	535	539	540	244
35°	470	473	481	490	492	294
45°	394	400	414	432	440	304
55°	305	316	344	371	384	271
65°	201	222	267	303	317	200
75°	95	130	181	212	218	102
85°	19	38	47	50	52	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	590.6	590.6	590.6	590.6	590.6
2.5°	591.5	591.5	588.7	590.6	590.6
5°	590.6	589.6	586.9	589.6	589.6
7.5°	587.8	586.9	585.0	587.8	586.9
10°	582.2	582.2	580.3	583.1	583.1
12.5°	577.5	576.6	575.7	579.4	578.5
15°	570.1	570.1	569.2	573.8	572.9
17.5°	560.8	561.7	562.6	566.4	567.3
20°	550.5	552.4	553.3	558.9	558.9
22.5°	541.2	542.1	544.0	549.6	549.6
25°	529.1	531.0	534.7	539.3	540.3
27.5°	517.0	517.9	522.6	529.1	530.0
30°	501.2	503.9	509.5	517.0	517.9
32.5°	487.2	490.0	496.5	503.9	505.8
35°	469.5	473.2	480.7	490.0	491.8
37.5°	453.6	456.4	465.8	476.0	478.8
40°	434.1	439.7	449.0	461.1	465.8
42.5°	414.5	420.1	431.3	447.1	452.7
45°	394.0	400.5	414.5	432.2	439.7
47.5°	373.5	381.0	396.8	417.3	425.7
50°	350.2	359.6	379.1	402.4	411.7
52.5°	327.9	339.1	360.5	386.6	398.7
55°	304.6	315.8	343.7	370.7	383.8
57.5°	278.5	293.4	324.2	354.9	368.9
60°	254.3	268.3	305.5	339.1	353.0
62.5°	228.2	246.9	286.9	322.3	336.3
65°	201.2	221.7	267.3	302.7	316.7
67.5°	177.0	199.3	247.8	283.2	297.2
70°	148.1	176.1	226.4	261.8	275.7
72.5°	121.1	151.8	204.0	238.5	251.5
75°	95.0	129.5	180.7	211.5	218.0
77.5°	70.8	107.1	156.5	169.5	164.9
80°	50.3	85.7	122.0	115.5	118.3
82.5°	32.6	65.2	75.5	85.7	88.5
85°	18.6	38.2	46.6	50.3	52.2
87.5°	8.4	14.0	18.6	18.6	17.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)