

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: P309214

Luminaire Tested: **24FCZ2-30-UNV-L82765-HRP-CP187-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: P309214
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30-UNV-L82765-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" 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: 1922.0 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

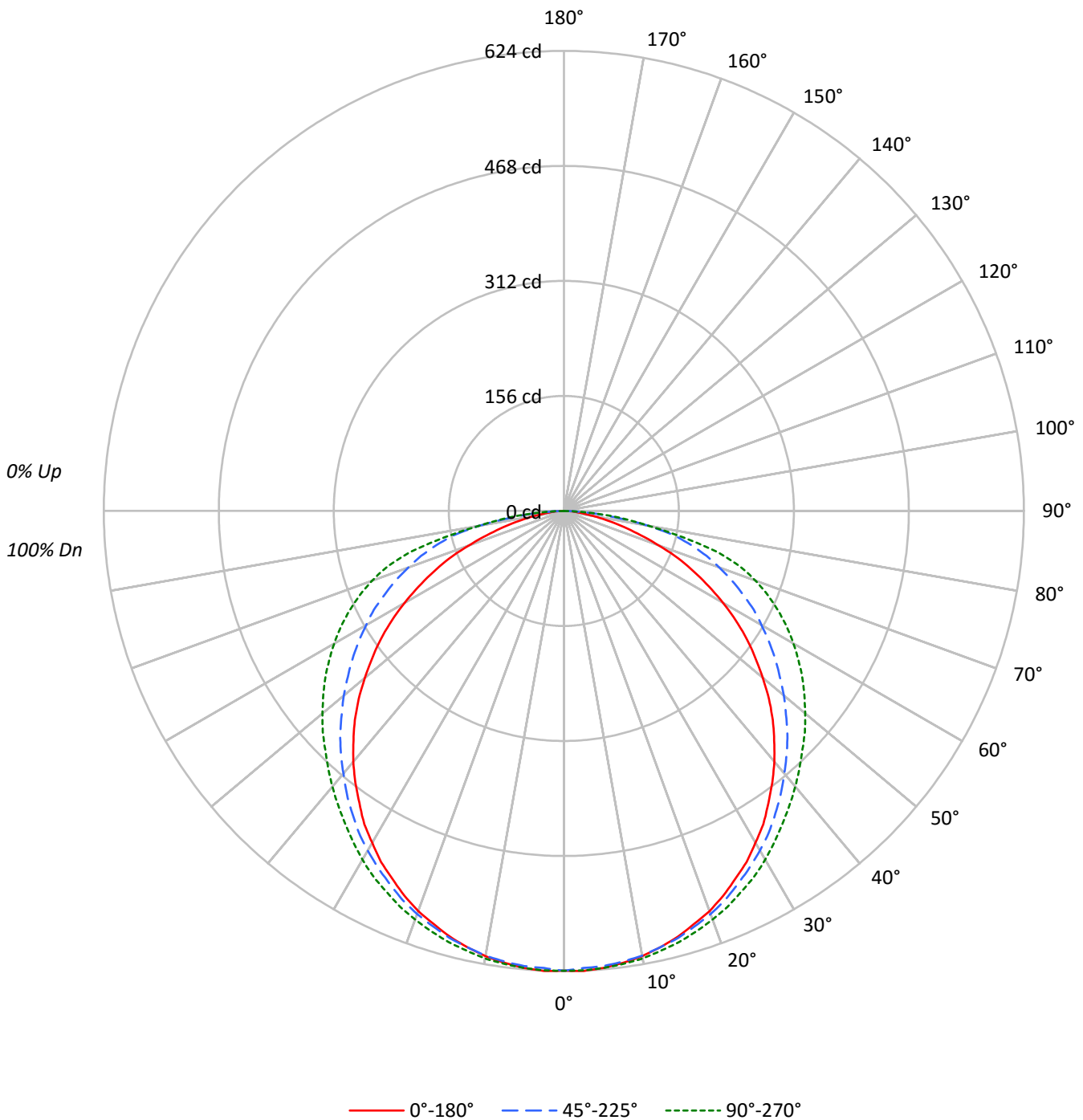
Input Watts (W): 23.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	839	839	839
5°	840	837	840
10°	838	837	842
15°	833	835	843
20°	827	833	844
25°	817	829	846
30°	808	826	849
35°	794	822	850
40°	780	817	858
45°	762	816	871
50°	738	815	894
55°	711	821	927
60°	671	834	968
65°	620	853	1022
70°	541	883	1089
75°	439	928	1125
80°	324	910	910
85°	249	672	758



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.1	3.1
10°-20°	169.6	8.8
20°-30°	258.3	13.4
30°-40°	313.6	16.3
40°-50°	331.3	17.2
50°-60°	312.6	16.3
60°-70°	259.9	13.5
70°-80°	171.0	8.9
80°-90°	46.6	2.4
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°	487.0	25.3
0°-40°	800.5	41.7
0°-60°	1444.5	75.2
0°-90°	1922.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1922.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	622	622	620	622	622	59
15°	598	599	600	605	605	169
25°	550	554	558	568	570	254
35°	484	489	500	513	517	303
45°	401	409	429	450	458	309
55°	303	316	350	383	395	270
65°	195	217	268	307	321	192
75°	84	123	179	212	216	91
85°	16	35	44	48	49	20
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°	624.4	623.6	620.4	623.6	623.6
5°	622.0	622.0	619.6	622.0	622.0
7.5°	618.0	618.0	616.4	619.6	619.6
10°	613.1	613.1	612.3	616.4	616.4
12.5°	605.9	606.7	605.9	610.7	610.7
15°	597.8	598.7	599.5	605.1	605.1
17.5°	587.4	589.0	590.6	597.0	597.8
20°	577.7	578.5	581.8	589.0	589.8
22.5°	564.9	567.3	571.3	578.5	580.9
25°	550.4	553.6	558.4	568.1	569.7
27.5°	536.7	539.1	545.5	556.0	559.2
30°	519.8	523.8	531.9	542.3	546.3
32.5°	503.7	507.7	517.4	528.6	531.9
35°	483.6	489.2	500.5	513.4	517.4
37.5°	464.3	469.9	483.6	498.1	502.9
40°	444.2	450.6	465.1	482.0	488.4
42.5°	422.4	431.3	447.4	465.9	473.1
45°	400.7	408.8	428.9	449.8	457.8
47.5°	377.4	387.0	408.8	433.7	443.4
50°	352.4	364.5	389.4	416.8	427.3
52.5°	327.5	341.2	369.3	399.9	411.2
55°	303.3	316.2	350.0	383.0	395.1
57.5°	276.8	292.9	329.9	365.3	377.4
60°	249.4	267.1	309.8	346.8	359.7
62.5°	222.1	242.2	290.5	327.5	341.2
65°	194.7	217.3	267.9	307.4	321.1
67.5°	168.2	193.1	247.0	286.5	300.1
70°	137.6	169.0	224.5	263.1	276.8
72.5°	109.4	145.6	202.8	239.0	251.0
75°	84.5	123.1	178.6	211.6	216.4
77.5°	62.0	100.6	153.7	165.0	165.8
80°	41.8	80.5	117.5	115.9	117.5
82.5°	27.4	60.3	74.0	82.9	83.7
85°	16.1	35.4	43.5	48.3	49.1
87.5°	8.0	12.1	15.3	16.1	17.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)