

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: P309303

Luminaire Tested: **24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-3000K**

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: P309303
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: 24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 3000K 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: 2179.0 lumens
Efficiency: N/A
Efficacy: 78.4 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

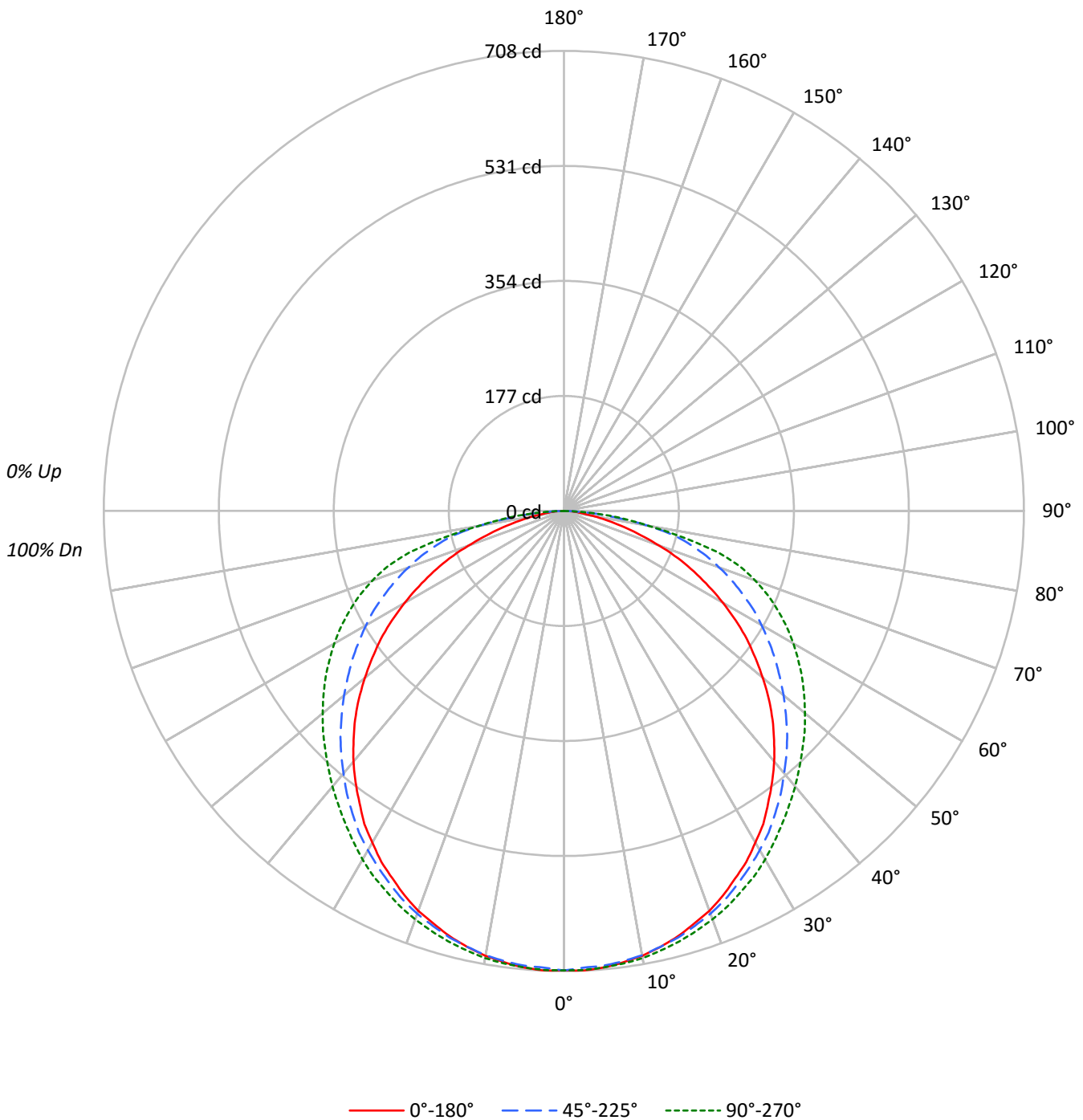
Input Watts (W): 27.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	951	951	951
5°	952	949	952
10°	950	948	955
15°	944	947	956
20°	938	944	957
25°	926	940	959
30°	916	937	962
35°	901	932	964
40°	885	926	973
45°	864	925	988
50°	836	924	1014
55°	807	931	1051
60°	761	945	1097
65°	703	967	1159
70°	614	1001	1234
75°	498	1053	1276
80°	367	1032	1032
85°	281	761	858



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.0	3.1
10°-20°	192.3	8.8
20°-30°	292.8	13.4
30°-40°	355.5	16.3
40°-50°	375.6	17.2
50°-60°	354.4	16.3
60°-70°	294.7	13.5
70°-80°	193.9	8.9
80°-90°	52.8	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°	552.1	25.3
0°-40°	907.6	41.7
0°-60°	1637.6	75.2
0°-90°	2179.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2179.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	707	707	707	707	707	
5°	705	705	702	705	705	67
15°	678	679	680	686	686	191
25°	624	628	633	644	646	288
35°	548	555	567	582	587	343
45°	454	463	486	510	519	350
55°	344	358	397	434	448	306
65°	221	246	304	348	364	218
75°	96	140	202	240	245	103
85°	18	40	49	55	56	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	707.0	707.0	707.0	707.0	707.0
2.5°	707.9	707.0	703.3	707.0	707.0
5°	705.2	705.2	702.4	705.2	705.2
7.5°	700.6	700.6	698.8	702.4	702.4
10°	695.1	695.1	694.2	698.8	698.8
12.5°	686.9	687.8	686.9	692.4	692.4
15°	677.8	678.7	679.6	686.0	686.0
17.5°	665.9	667.8	669.6	676.9	677.8
20°	655.0	655.9	659.5	667.8	668.7
22.5°	640.4	643.1	647.7	655.9	658.6
25°	624.0	627.6	633.1	644.0	645.9
27.5°	608.5	611.2	618.5	630.4	634.0
30°	589.3	593.9	603.0	614.8	619.4
32.5°	571.1	575.6	586.6	599.3	603.0
35°	548.3	554.6	567.4	582.0	586.6
37.5°	526.4	532.7	548.3	564.7	570.1
40°	503.6	510.8	527.3	546.4	553.7
42.5°	478.9	489.0	507.2	528.2	536.4
45°	454.3	463.4	486.2	509.9	519.1
47.5°	427.8	438.8	463.4	491.7	502.6
50°	399.6	413.2	441.5	472.5	484.4
52.5°	371.3	386.8	418.7	453.4	466.1
55°	343.9	358.5	396.8	434.2	447.9
57.5°	313.8	332.1	374.0	414.2	427.8
60°	282.8	302.9	351.2	393.2	407.8
62.5°	251.8	274.6	329.3	371.3	386.8
65°	220.8	246.3	303.8	348.5	364.0
67.5°	190.7	218.9	280.1	324.8	340.3
70°	156.0	191.6	254.5	298.3	313.8
72.5°	124.1	165.1	229.9	270.9	284.6
75°	95.8	139.6	202.5	239.9	245.4
77.5°	70.2	114.0	174.2	187.0	187.9
80°	47.4	91.2	133.2	131.4	133.2
82.5°	31.0	68.4	83.9	94.0	94.9
85°	18.2	40.1	49.3	54.7	55.6
87.5°	9.1	13.7	17.3	18.2	20.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)