

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: P309306

Luminaire Tested: **24FCZ2-35-UNV-L82765-HRP-CP187-W2A-U-4500K**

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: P309306
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 4500K 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: 2345.0 lumens
Efficiency: N/A
Efficacy: 82.3 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

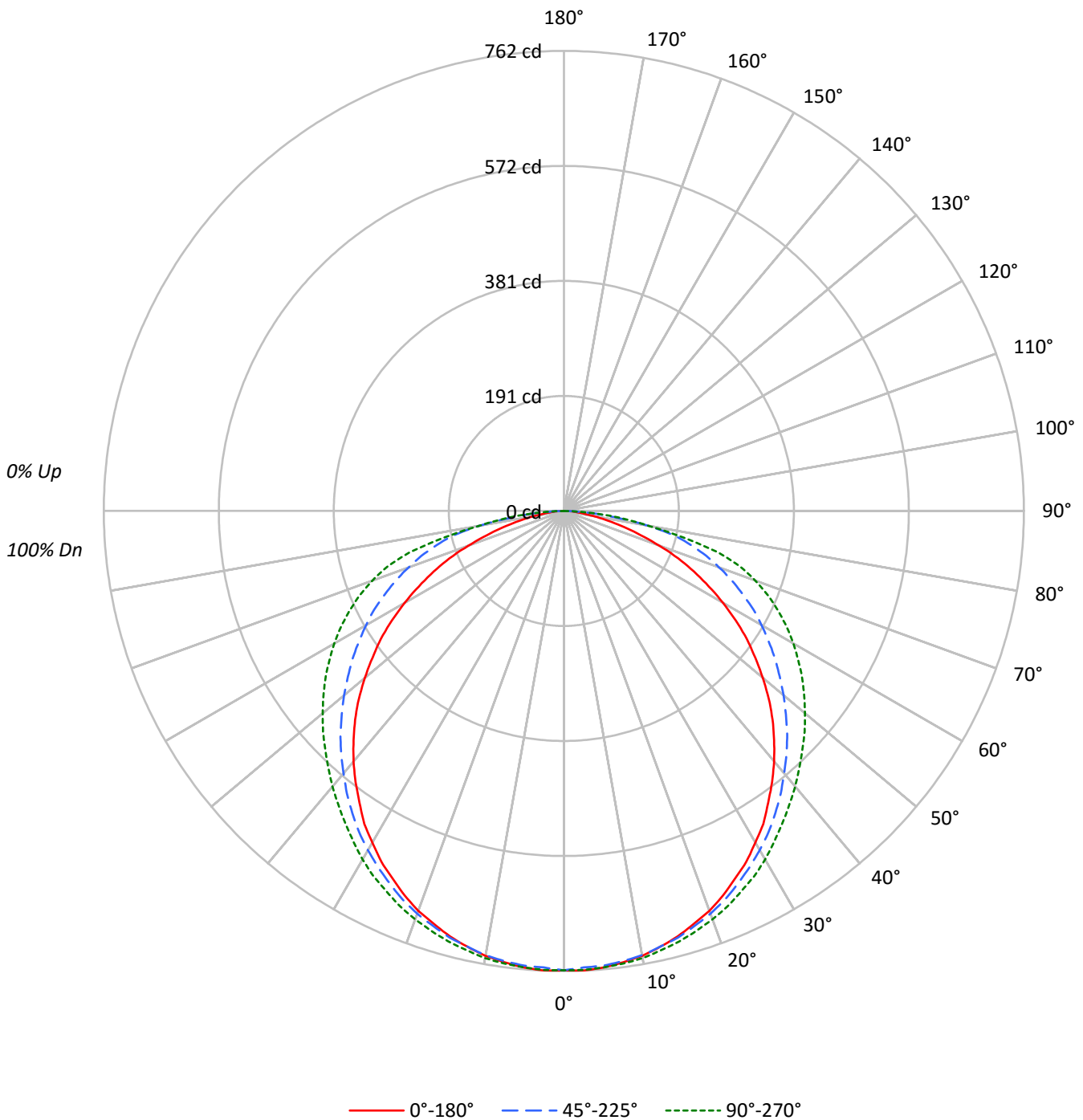
Input Watts (W): 28.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1024	1024	1024
5°	1025	1021	1025
10°	1022	1021	1027
15°	1016	1019	1028
20°	1009	1016	1030
25°	997	1011	1032
30°	985	1008	1036
35°	969	1003	1037
40°	952	997	1047
45°	930	996	1063
50°	900	995	1091
55°	868	1002	1131
60°	819	1017	1181
65°	756	1041	1247
70°	661	1078	1328
75°	536	1133	1373
80°	395	1110	1110
85°	303	818	925



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.1	3.1
10°-20°	207.0	8.8
20°-30°	315.1	13.4
30°-40°	382.6	16.3
40°-50°	404.2	17.2
50°-60°	381.4	16.3
60°-70°	317.1	13.5
70°-80°	208.6	8.9
80°-90°	56.9	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°	594.1	25.3
0°-40°	976.7	41.7
0°-60°	1762.3	75.2
0°-90°	2345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2345.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	761	761	761	761	761	
5°	759	759	756	759	759	72
15°	729	730	731	738	738	206
25°	672	675	681	693	695	310
35°	590	597	611	626	631	369
45°	489	499	523	549	559	376
55°	370	386	427	467	482	330
65°	238	265	327	375	392	235
75°	103	150	218	258	264	111
85°	20	43	53	59	60	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	760.8	760.8	760.8	760.8	760.8
2.5°	761.8	760.8	756.9	760.8	760.8
5°	758.9	758.9	755.9	758.9	758.9
7.5°	754.0	754.0	752.0	755.9	755.9
10°	748.1	748.1	747.1	752.0	752.0
12.5°	739.2	740.2	739.2	745.1	745.1
15°	729.4	730.4	731.4	738.3	738.3
17.5°	716.7	718.6	720.6	728.4	729.4
20°	704.9	705.9	709.8	718.6	719.6
22.5°	689.2	692.1	697.0	705.9	708.8
25°	671.5	675.4	681.3	693.1	695.1
27.5°	654.8	657.8	665.6	678.4	682.3
30°	634.2	639.1	648.9	661.7	666.6
32.5°	614.6	619.5	631.2	645.0	648.9
35°	590.0	596.9	610.6	626.3	631.2
37.5°	566.5	573.3	590.0	607.7	613.6
40°	541.9	549.8	567.4	588.1	595.9
42.5°	515.4	526.2	545.8	568.4	577.3
45°	488.9	498.7	523.3	548.8	558.6
47.5°	460.4	472.2	498.7	529.1	540.9
50°	430.0	444.7	475.2	508.5	521.3
52.5°	399.6	416.3	450.6	487.9	501.7
55°	370.1	385.8	427.1	467.3	482.0
57.5°	337.7	357.3	402.5	445.7	460.4
60°	304.3	325.9	378.0	423.1	438.8
62.5°	271.0	295.5	354.4	399.6	416.3
65°	237.6	265.1	326.9	375.0	391.7
67.5°	205.2	235.6	301.4	349.5	366.2
70°	167.9	206.2	273.9	321.0	337.7
72.5°	133.5	177.7	247.4	291.6	306.3
75°	103.1	150.2	217.9	258.2	264.1
77.5°	75.6	122.7	187.5	201.3	202.2
80°	51.0	98.2	143.3	141.4	143.3
82.5°	33.4	73.6	90.3	101.1	102.1
85°	19.6	43.2	53.0	58.9	59.9
87.5°	9.8	14.7	18.7	19.6	21.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)