

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: P313491

Luminaire Tested: **24FCZ2-35-UNV-L83050-RDP-CA08-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: P313491
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-L83050-RDP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC 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: 2187.0 lumens
Efficiency: N/A
Efficacy: 78.1 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

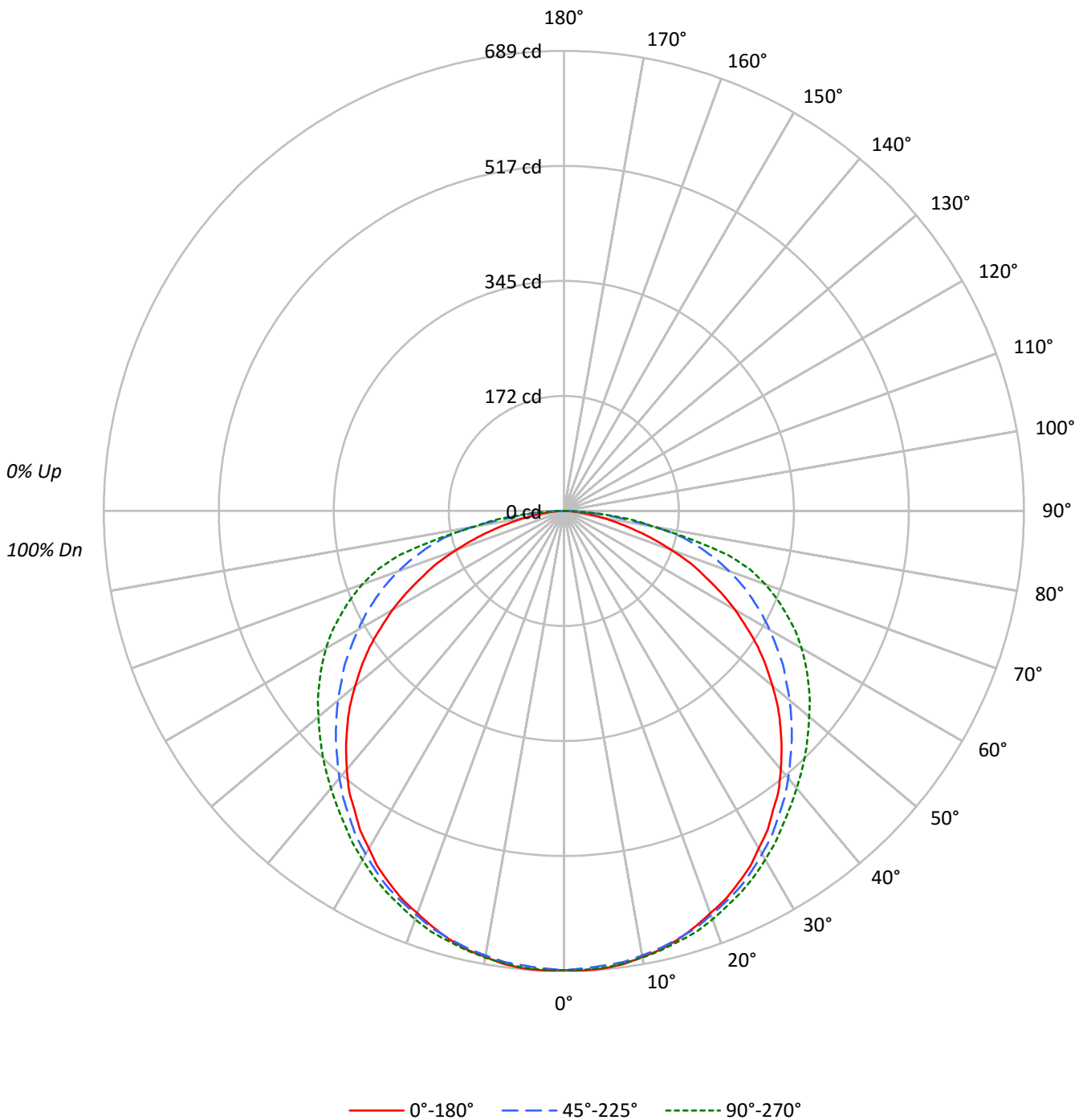
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	68	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°	925	925	925
5°	929	923	927
10°	926	923	928
15°	925	923	929
20°	918	923	932
25°	915	924	934
30°	907	922	937
35°	898	919	941
40°	888	918	953
45°	873	918	974
50°	854	924	1004
55°	832	939	1048
60°	797	957	1106
65°	746	991	1174
70°	679	1037	1263
75°	575	1094	1319
80°	454	1101	1068
85°	335	837	937



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	65.2	3.0
10°-20°	187.8	8.6
20°-30°	287.1	13.1
30°-40°	351.0	16.0
40°-50°	374.1	17.1
50°-60°	357.7	16.4
60°-70°	303.0	13.9
70°-80°	203.6	9.3
80°-90°	57.4	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°	540.1	24.7
0°-40°	891.1	40.7
0°-60°	1622.9	74.2
0°-90°	2187.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2187.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	688	688	688	688	688	
5°	688	687	683	687	687	65
15°	664	664	663	668	667	187
25°	616	618	623	628	629	284
35°	547	551	560	571	573	342
45°	459	466	483	503	512	354
55°	355	368	400	432	447	316
65°	234	258	311	353	369	233
75°	111	151	210	246	254	118
85°	22	44	54	59	61	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	687.7	687.7	687.7	687.7	687.7
2.5°	688.8	688.8	685.6	687.7	687.7
5°	687.7	686.7	683.4	686.7	686.7
7.5°	684.5	683.4	681.2	684.5	683.4
10°	678.0	678.0	675.8	679.1	679.1
12.5°	672.6	671.5	670.4	674.7	673.6
15°	663.9	663.9	662.8	668.2	667.1
17.5°	653.0	654.1	655.2	659.5	660.6
20°	641.1	643.3	644.4	650.9	650.9
22.5°	630.3	631.3	633.5	640.0	640.0
25°	616.2	618.3	622.7	628.1	629.2
27.5°	602.1	603.1	608.6	616.2	617.2
30°	583.6	586.9	593.4	602.1	603.1
32.5°	567.3	570.6	578.2	586.9	589.0
35°	546.7	551.1	559.7	570.6	572.8
37.5°	528.3	531.5	542.4	554.3	557.6
40°	505.5	512.0	522.9	537.0	542.4
42.5°	482.7	489.2	502.3	520.7	527.2
45°	458.9	466.5	482.7	503.3	512.0
47.5°	435.0	443.7	462.1	486.0	495.7
50°	407.9	418.7	441.5	468.6	479.5
52.5°	381.8	394.9	419.8	450.2	464.3
55°	354.7	367.7	400.3	431.7	446.9
57.5°	324.3	341.7	377.5	413.3	429.6
60°	296.1	312.4	355.8	394.9	411.1
62.5°	265.8	287.5	334.1	375.3	391.6
65°	234.3	258.2	311.3	352.6	368.8
67.5°	206.1	232.1	288.6	329.8	346.0
70°	172.5	205.0	263.6	304.8	321.1
72.5°	141.0	176.8	237.6	277.7	292.9
75°	110.6	150.8	210.4	246.2	253.8
77.5°	82.4	124.7	182.2	197.4	192.0
80°	58.6	99.8	142.1	134.5	137.8
82.5°	38.0	75.9	87.9	99.8	103.1
85°	21.7	44.5	54.2	58.6	60.7
87.5°	9.8	16.3	21.7	21.7	20.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)