

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: P313131

Luminaire Tested: **24FCZ2-35-UNV-L83050-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: P313131
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-L83050-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: 2364.0 lumens
Efficiency: N/A
Efficacy: 84.4 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

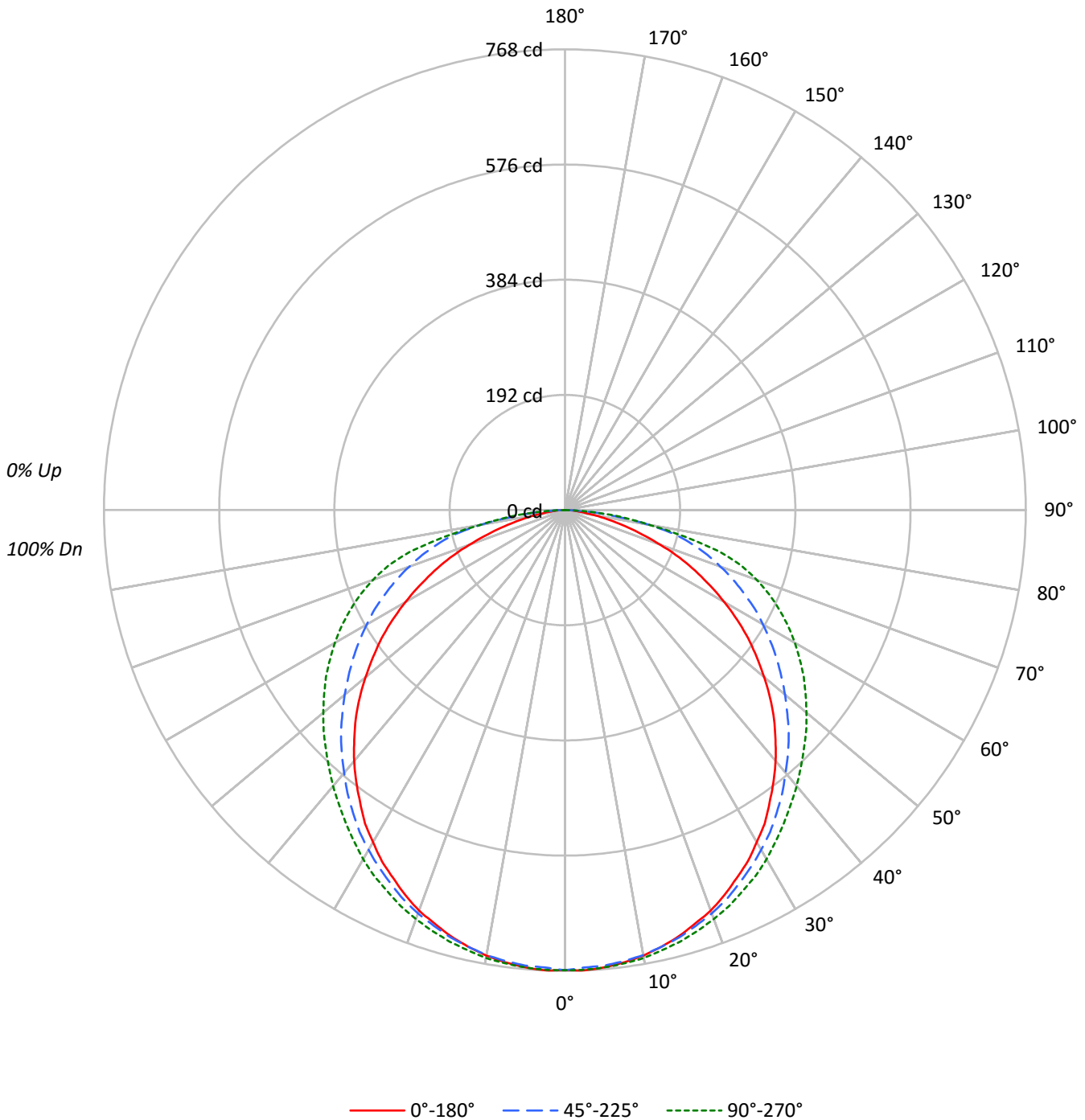
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1032	1032	1032
5°	1033	1029	1033
10°	1030	1029	1036
15°	1024	1027	1037
20°	1017	1024	1039
25°	1005	1020	1040
30°	993	1016	1044
35°	977	1011	1045
40°	960	1005	1055
45°	938	1004	1071
50°	907	1003	1100
55°	875	1010	1140
60°	826	1025	1190
65°	762	1049	1257
70°	666	1086	1339
75°	540	1142	1384
80°	399	1120	1120
85°	306	824	932



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.7	3.1
10°-20°	208.6	8.8
20°-30°	317.6	13.4
30°-40°	385.7	16.3
40°-50°	407.5	17.2
50°-60°	384.5	16.3
60°-70°	319.7	13.5
70°-80°	210.3	8.9
80°-90°	57.3	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°	598.9	25.3
0°-40°	984.6	41.7
0°-60°	1776.6	75.2
0°-90°	2364.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2364.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	765	765	762	765	765	73
15°	735	736	737	744	744	207
25°	677	681	687	699	701	312
35°	595	602	616	631	636	372
45°	493	503	528	553	563	380
55°	373	389	430	471	486	332
65°	240	267	330	378	395	237
75°	104	151	220	260	266	112
85°	20	44	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°	767.0	767.0	767.0	767.0	767.0
2.5°	768.0	767.0	763.0	767.0	767.0
5°	765.0	765.0	762.1	765.0	765.0
7.5°	760.1	760.1	758.1	762.1	762.1
10°	754.1	754.1	753.1	758.1	758.1
12.5°	745.2	746.2	745.2	751.2	751.2
15°	735.3	736.3	737.3	744.2	744.2
17.5°	722.5	724.4	726.4	734.3	735.3
20°	710.6	711.6	715.5	724.4	725.4
22.5°	694.8	697.7	702.7	711.6	714.5
25°	676.9	680.9	686.8	698.7	700.7
27.5°	660.1	663.1	671.0	683.9	687.8
30°	639.3	644.3	654.2	667.0	672.0
32.5°	619.5	624.5	636.4	650.2	654.2
35°	594.8	601.7	615.6	631.4	636.4
37.5°	571.0	578.0	594.8	612.6	618.5
40°	546.3	554.2	572.0	592.8	600.7
42.5°	519.6	530.5	550.3	573.0	581.9
45°	492.9	502.8	527.5	553.2	563.1
47.5°	464.2	476.0	502.8	533.4	545.3
50°	433.5	448.3	479.0	512.7	525.5
52.5°	402.8	419.6	454.3	491.9	505.7
55°	373.1	388.9	430.5	471.1	485.9
57.5°	340.4	360.2	405.8	449.3	464.2
60°	306.8	328.6	381.0	426.6	442.4
62.5°	273.2	297.9	357.3	402.8	419.6
65°	239.5	267.2	329.6	378.1	394.9
67.5°	206.8	237.5	303.8	352.3	369.2
70°	169.2	207.8	276.1	323.6	340.4
72.5°	134.6	179.1	249.4	293.9	308.8
75°	103.9	151.4	219.7	260.3	266.2
77.5°	76.2	123.7	189.0	202.9	203.9
80°	51.5	99.0	144.5	142.5	144.5
82.5°	33.6	74.2	91.1	101.9	102.9
85°	19.8	43.5	53.4	59.4	60.4
87.5°	9.9	14.8	18.8	19.8	21.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)