

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: P313130

Luminaire Tested: **24FCZ2-35-UNV-L83050-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: P313130
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-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: 2234.0 lumens
Efficiency: N/A
Efficacy: 80.1 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

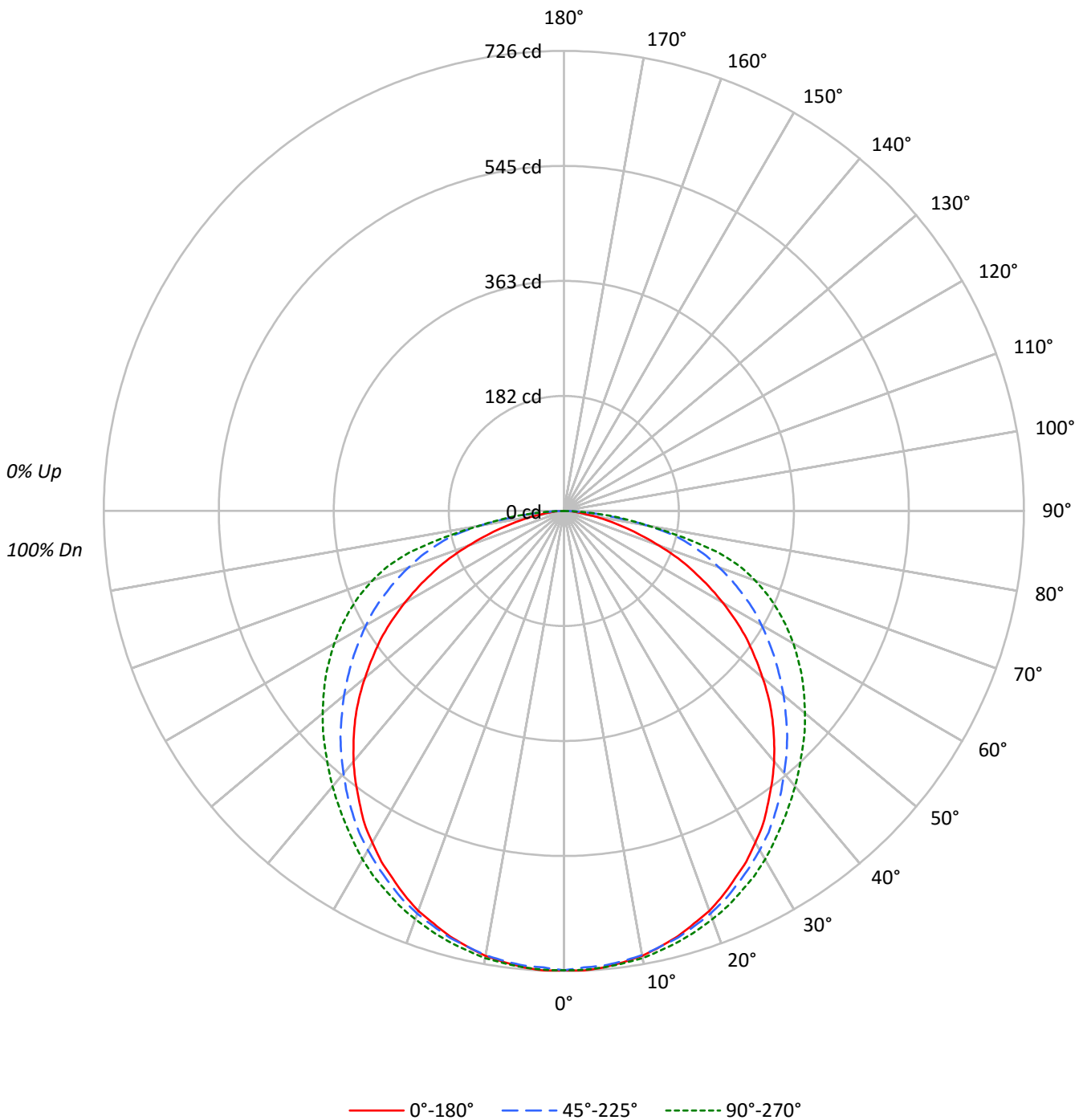
Input Watts (W): 27.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	975	975	975
5°	977	973	977
10°	974	972	979
15°	968	971	980
20°	961	968	982
25°	950	964	983
30°	939	960	987
35°	923	955	988
40°	907	950	997
45°	886	949	1013
50°	857	948	1039
55°	827	954	1077
60°	780	969	1125
65°	720	991	1188
70°	629	1026	1266
75°	510	1079	1308
80°	377	1058	1058
85°	289	780	881



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.7	3.1
10°-20°	197.2	8.8
20°-30°	300.2	13.4
30°-40°	364.5	16.3
40°-50°	385.1	17.2
50°-60°	363.4	16.3
60°-70°	302.1	13.5
70°-80°	198.8	8.9
80°-90°	54.2	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°	566.0	25.3
0°-40°	930.5	41.7
0°-60°	1678.9	75.2
0°-90°	2234.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2234.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	725	725	725	725	725	
5°	723	723	720	723	723	69
15°	695	696	697	703	703	196
25°	640	644	649	660	662	295
35°	562	569	582	597	601	352
45°	466	475	498	523	532	359
55°	353	368	407	445	459	314
65°	226	252	311	357	373	224
75°	98	143	208	246	252	106
85°	19	41	50	56	57	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	724.8	724.8	724.8	724.8	724.8
2.5°	725.8	724.8	721.1	724.8	724.8
5°	723.0	723.0	720.1	723.0	723.0
7.5°	718.3	718.3	716.4	720.1	720.1
10°	712.7	712.7	711.7	716.4	716.4
12.5°	704.2	705.2	704.2	709.9	709.9
15°	694.9	695.8	696.8	703.3	703.3
17.5°	682.7	684.6	686.5	694.0	694.9
20°	671.5	672.4	676.2	684.6	685.5
22.5°	656.5	659.4	664.0	672.4	675.3
25°	639.7	643.5	649.1	660.3	662.2
27.5°	623.8	626.6	634.1	646.3	650.0
30°	604.2	608.9	618.2	630.4	635.0
32.5°	585.5	590.1	601.4	614.5	618.2
35°	562.1	568.6	581.7	596.7	601.4
37.5°	539.6	546.2	562.1	578.9	584.5
40°	516.3	523.7	540.6	560.2	567.7
42.5°	491.0	501.3	520.0	541.5	549.9
45°	465.8	475.1	498.5	522.8	532.2
47.5°	438.6	449.9	475.1	504.1	515.3
50°	409.6	423.7	452.7	484.5	496.6
52.5°	380.6	396.5	429.3	464.8	477.9
55°	352.6	367.6	406.8	445.2	459.2
57.5°	321.7	340.4	383.5	424.6	438.6
60°	289.9	310.5	360.1	403.1	418.1
62.5°	258.1	281.5	337.6	380.6	396.5
65°	226.3	252.5	311.4	357.3	373.2
67.5°	195.5	224.5	287.1	333.0	348.9
70°	159.9	196.4	260.9	305.8	321.7
72.5°	127.2	169.3	235.7	277.8	291.8
75°	98.2	143.1	207.6	246.0	251.6
77.5°	72.0	116.9	178.6	191.7	192.7
80°	48.6	93.5	136.5	134.7	136.5
82.5°	31.8	70.1	86.0	96.3	97.3
85°	18.7	41.2	50.5	56.1	57.1
87.5°	9.4	14.0	17.8	18.7	20.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)