

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: P309259

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-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: P309259
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: 24FCZ2-35HE-UNV-L82765-HRP-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2231.0 lumens
Efficiency: N/A
Efficacy: 85.5 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

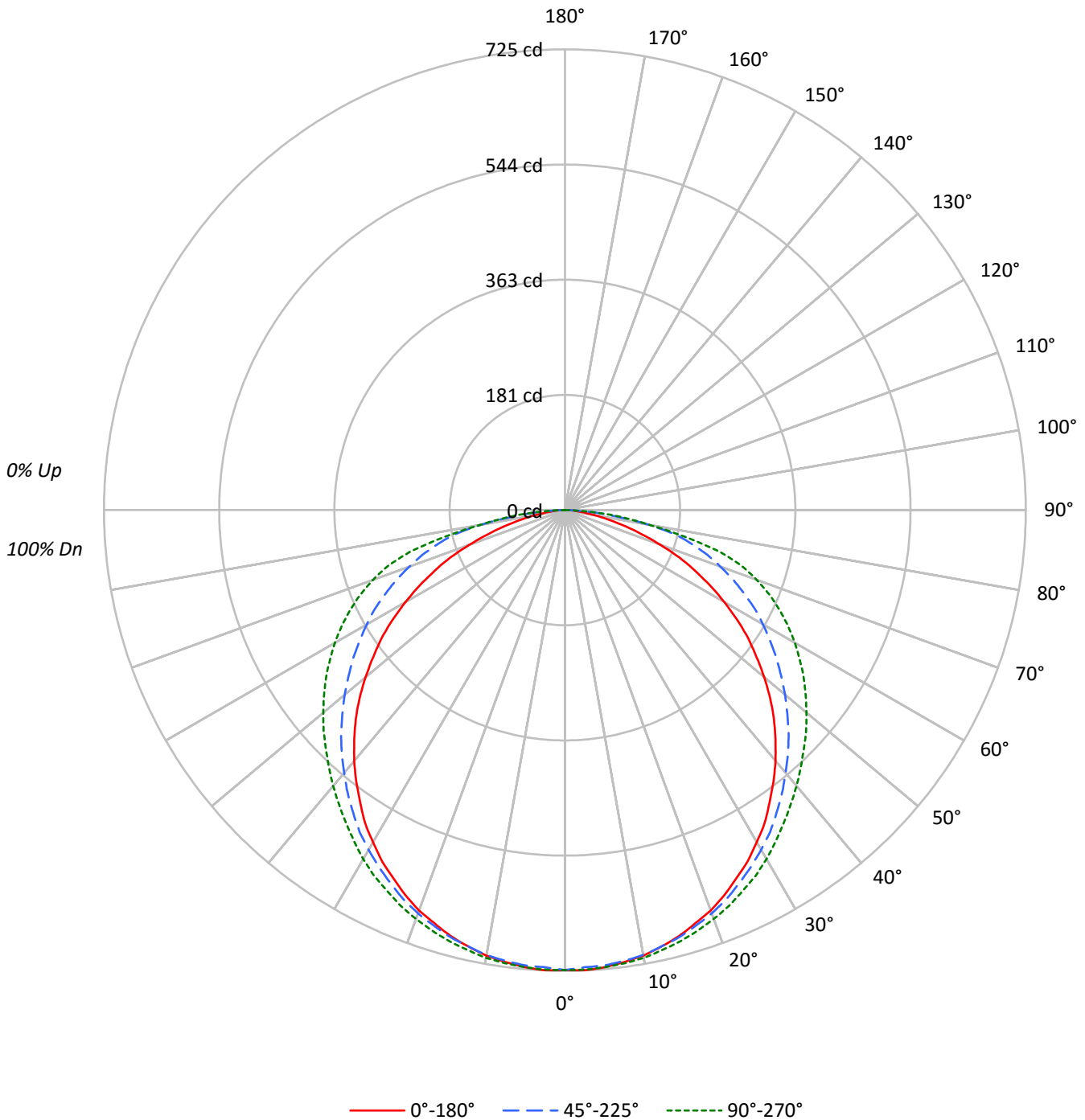
Input Watts (W): 26.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	974	974	974
5°	975	971	975
10°	972	971	977
15°	967	969	978
20°	960	967	980
25°	949	962	982
30°	937	959	985
35°	922	954	987
40°	906	948	996
45°	885	947	1011
50°	856	946	1038
55°	826	953	1076
60°	779	968	1123
65°	720	990	1187
70°	628	1025	1264
75°	510	1078	1306
80°	377	1057	1057
85°	289	778	880



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.6	3.1
10°-20°	196.9	8.8
20°-30°	299.8	13.4
30°-40°	364.0	16.3
40°-50°	384.6	17.2
50°-60°	362.9	16.3
60°-70°	301.7	13.5
70°-80°	198.5	8.9
80°-90°	54.1	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°	565.3	25.3
0°-40°	929.2	41.7
0°-60°	1676.7	75.2
0°-90°	2231.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2231.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	724	724	724	724	724	
5°	722	722	719	722	722	69
15°	694	695	696	702	702	196
25°	639	643	648	659	661	295
35°	561	568	581	596	601	351
45°	465	474	498	522	531	358
55°	352	367	406	445	459	314
65°	226	252	311	357	373	223
75°	98	143	207	246	251	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°	723.8	723.8	723.8	723.8	723.8
2.5°	724.8	723.8	720.1	723.8	723.8
5°	722.0	722.0	719.2	722.0	722.0
7.5°	717.3	717.3	715.4	719.2	719.2
10°	711.7	711.7	710.8	715.4	715.4
12.5°	703.3	704.2	703.3	708.9	708.9
15°	694.0	694.9	695.8	702.4	702.4
17.5°	681.8	683.7	685.6	693.0	694.0
20°	670.6	671.5	675.3	683.7	684.6
22.5°	655.7	658.5	663.1	671.5	674.3
25°	638.9	642.6	648.2	659.4	661.3
27.5°	623.0	625.8	633.3	645.4	649.1
30°	603.4	608.0	617.4	629.5	634.2
32.5°	584.7	589.4	600.6	613.6	617.4
35°	561.3	567.9	580.9	595.9	600.6
37.5°	538.9	545.5	561.3	578.1	583.7
40°	515.6	523.0	539.9	559.5	566.9
42.5°	490.3	500.6	519.3	540.8	549.2
45°	465.1	474.5	497.8	522.1	531.4
47.5°	438.0	449.3	474.5	503.4	514.6
50°	409.1	423.1	452.1	483.8	496.0
52.5°	380.1	396.0	428.7	464.2	477.3
55°	352.1	367.1	406.3	444.6	458.6
57.5°	321.3	340.0	382.9	424.0	438.0
60°	289.5	310.1	359.6	402.6	417.5
62.5°	257.8	281.1	337.2	380.1	396.0
65°	226.0	252.2	311.0	356.8	372.7
67.5°	195.2	224.2	286.7	332.5	348.4
70°	159.7	196.1	260.6	305.4	321.3
72.5°	127.0	169.1	235.4	277.4	291.4
75°	98.1	142.9	207.3	245.6	251.2
77.5°	71.9	116.7	178.4	191.5	192.4
80°	48.6	93.4	136.4	134.5	136.4
82.5°	31.8	70.0	85.9	96.2	97.1
85°	18.7	41.1	50.4	56.0	57.0
87.5°	9.3	14.0	17.7	18.7	20.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)