

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: P312983

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-S-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: P312983
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-34HE-UNV-L83050-S-CP187-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH 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: 3237.0 lumens
Efficiency: N/A
Efficacy: 111.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

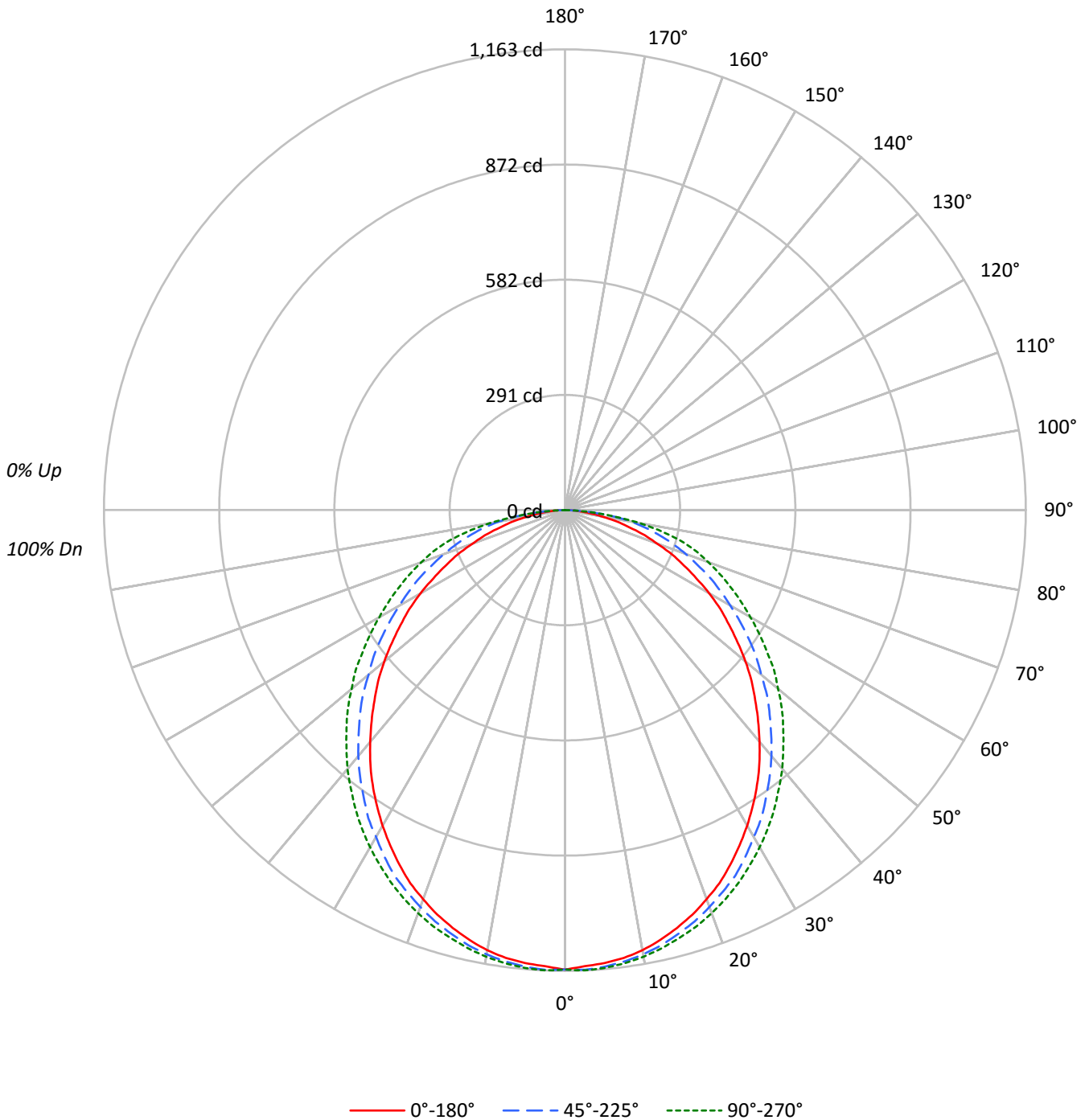
Input Watts (W): 29
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3121	3121	3121
5°	3101	3125	3133
10°	3083	3112	3128
15°	3042	3084	3114
20°	2993	3054	3101
25°	2933	3022	3081
30°	2858	2961	3055
35°	2779	2907	3027
40°	2684	2849	2997
45°	2586	2782	2966
50°	2491	2706	2940
55°	2374	2657	2919
60°	2268	2593	2910
65°	2116	2578	2943
70°	1949	2555	3030
75°	1759	2591	3188
80°	1522	2669	2996
85°	1260	2238	2238



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.7	3.4
10°-20°	312.2	9.6
20°-30°	467.1	14.4
30°-40°	553.1	17.1
40°-50°	563.7	17.4
50°-60°	505.3	15.6
60°-70°	395.6	12.2
70°-80°	255.1	7.9
80°-90°	75.4	2.3
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°	888.9	27.5
0°-40°	1442.1	44.5
0°-60°	2511.0	77.6
0°-90°	3237.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3237.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1160	1160	1160	1160	1160	
5°	1148	1151	1157	1158	1160	109
15°	1092	1098	1107	1116	1118	308
25°	988	997	1018	1032	1038	455
35°	846	856	885	912	921	529
45°	680	695	731	769	779	525
55°	506	523	566	606	622	454
65°	332	352	405	444	462	330
75°	169	195	249	292	307	181
85°	41	56	72	72	72	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1159.9	1159.9	1159.9	1159.9	1159.9
2.5°	1152.4	1155.4	1161.4	1162.9	1162.9
5°	1147.8	1150.9	1156.9	1158.4	1159.9
7.5°	1140.3	1141.8	1149.3	1152.4	1153.9
10°	1128.2	1131.2	1138.8	1143.3	1144.8
12.5°	1111.6	1116.1	1125.2	1131.2	1132.7
15°	1092.0	1098.0	1107.1	1116.1	1117.6
17.5°	1070.8	1076.9	1088.9	1099.5	1102.5
20°	1045.1	1052.7	1066.3	1078.4	1082.9
22.5°	1019.5	1025.5	1042.1	1057.2	1061.7
25°	987.7	996.8	1017.9	1031.5	1037.6
27.5°	954.5	965.1	986.2	1004.4	1010.4
30°	919.8	930.4	953.0	975.7	983.2
32.5°	883.5	895.6	922.8	945.5	953.0
35°	845.8	856.3	885.0	912.2	921.3
37.5°	806.5	815.6	848.8	877.5	886.6
40°	764.2	776.3	811.0	844.3	853.3
42.5°	721.9	735.5	770.3	806.5	815.6
45°	679.6	694.7	731.0	768.7	779.3
47.5°	638.9	650.9	691.7	728.0	743.1
50°	595.1	607.1	646.4	687.2	702.3
52.5°	549.8	566.4	608.7	647.9	666.0
55°	506.0	522.6	566.4	605.6	622.2
57.5°	465.2	478.8	524.1	564.9	581.5
60°	421.4	433.5	481.8	525.6	540.7
62.5°	374.6	392.7	442.5	483.3	501.4
65°	332.3	351.9	404.8	444.0	462.2
67.5°	293.0	311.1	362.5	404.8	424.4
70°	247.7	271.9	324.7	367.0	385.1
72.5°	211.4	232.6	287.0	329.2	348.9
75°	169.2	194.8	249.2	291.5	306.6
77.5°	134.4	160.1	211.4	244.7	252.2
80°	98.2	123.8	172.2	188.8	193.3
82.5°	66.5	90.6	123.8	128.4	129.9
85°	40.8	55.9	72.5	72.5	72.5
87.5°	19.6	22.7	25.7	24.2	24.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)