

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: P309039

Luminaire Tested: **22FCZ2-34HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P309039
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-L82765-S-CP187-W2A-U-5700K
Description: 2'X2' TROFFER LED MODULE, SMOOTH 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: 3184.0 lumens
Efficiency: N/A
Efficacy: 112.1 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

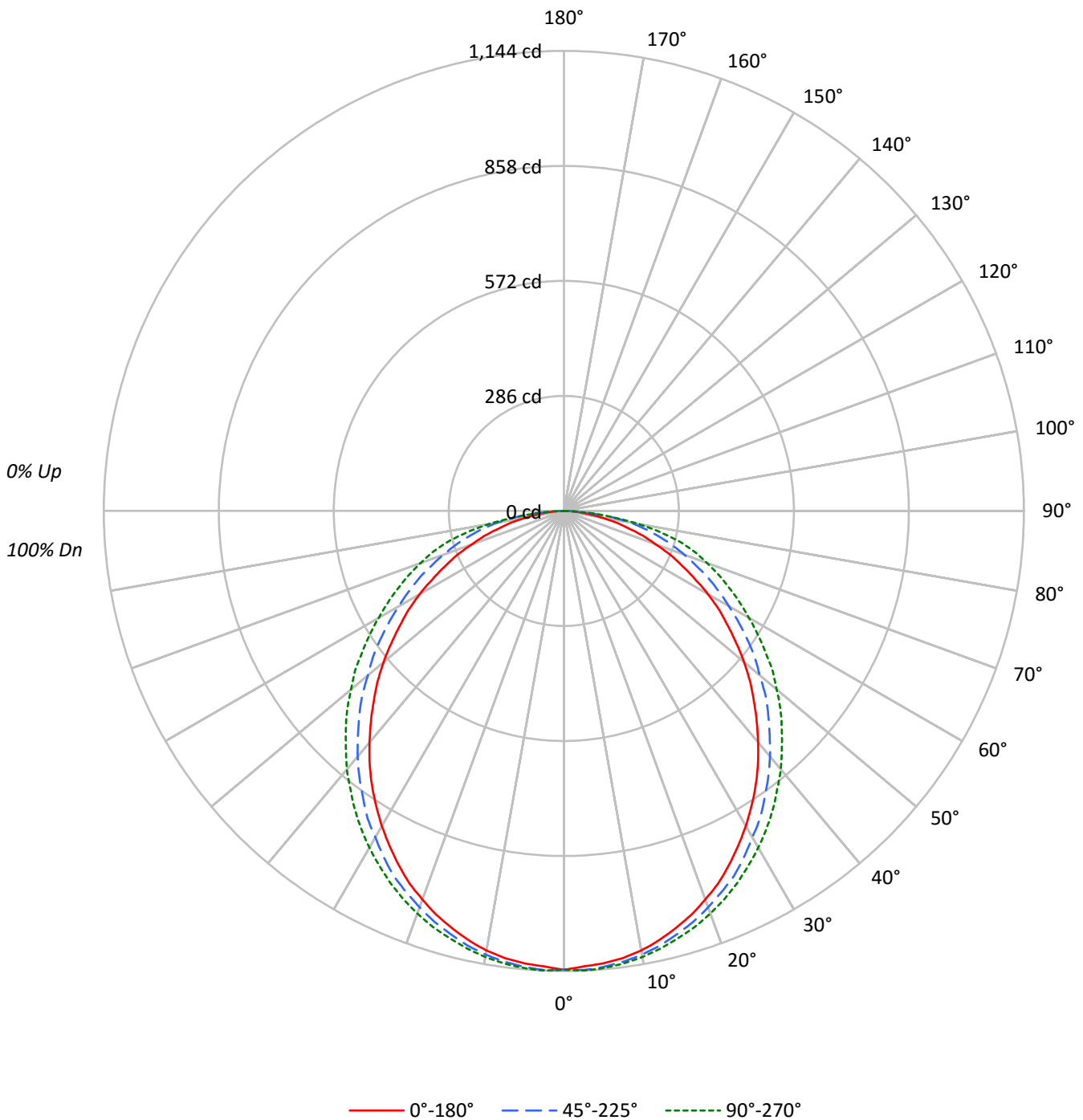
Input Watts (W): 28.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3070	3070	3070
5°	3050	3074	3082
10°	3032	3061	3077
15°	2992	3034	3063
20°	2944	3003	3050
25°	2885	2973	3030
30°	2811	2913	3005
35°	2733	2860	2977
40°	2641	2803	2949
45°	2544	2736	2917
50°	2450	2662	2892
55°	2335	2614	2872
60°	2231	2551	2862
65°	2081	2535	2895
70°	1917	2513	2980
75°	1730	2548	3136
80°	1497	2625	2947
85°	1238	2201	2201



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.9	3.4
10°-20°	307.0	9.6
20°-30°	459.4	14.4
30°-40°	544.1	17.1
40°-50°	554.5	17.4
50°-60°	497.0	15.6
60°-70°	389.1	12.2
70°-80°	250.9	7.9
80°-90°	74.1	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°	874.4	27.5
0°-40°	1418.5	44.5
0°-60°	2469.9	77.6
0°-90°	3184.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3184.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1141	1141	1141	1141	1141	
5°	1129	1132	1138	1139	1141	107
15°	1074	1080	1089	1098	1099	303
25°	972	980	1001	1015	1021	447
35°	832	842	871	897	906	520
45°	668	683	719	756	767	516
55°	498	514	557	596	612	446
65°	327	346	398	437	455	325
75°	166	192	245	287	302	178
85°	40	55	71	71	71	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1140.9	1140.9	1140.9	1140.9	1140.9
2.5°	1133.5	1136.5	1142.4	1143.9	1143.9
5°	1129.0	1132.0	1138.0	1139.4	1140.9
7.5°	1121.6	1123.1	1130.5	1133.5	1135.0
10°	1109.7	1112.7	1120.1	1124.6	1126.1
12.5°	1093.4	1097.8	1106.8	1112.7	1114.2
15°	1074.1	1080.0	1088.9	1097.8	1099.3
17.5°	1053.3	1059.2	1071.1	1081.5	1084.5
20°	1028.0	1035.5	1048.8	1060.7	1065.2
22.5°	1002.8	1008.7	1025.1	1039.9	1044.4
25°	971.6	980.5	1001.3	1014.7	1020.6
27.5°	938.9	949.3	970.1	987.9	993.9
30°	904.7	915.1	937.4	959.7	967.1
32.5°	869.1	880.9	907.7	930.0	937.4
35°	831.9	842.3	870.6	897.3	906.2
37.5°	793.3	802.2	834.9	863.1	872.0
40°	751.7	763.6	797.8	830.4	839.4
42.5°	710.1	723.5	757.6	793.3	802.2
45°	668.5	683.4	719.0	756.2	766.6
47.5°	628.4	640.3	680.4	716.1	730.9
50°	585.3	597.2	635.8	675.9	690.8
52.5°	540.8	557.1	598.7	637.3	655.1
55°	497.7	514.0	557.1	595.7	612.1
57.5°	457.6	470.9	515.5	555.6	571.9
60°	414.5	426.4	473.9	517.0	531.8
62.5°	368.4	386.3	435.3	475.4	493.2
65°	326.8	346.1	398.1	436.8	454.6
67.5°	288.2	306.0	356.5	398.1	417.4
70°	243.6	267.4	319.4	361.0	378.8
72.5°	208.0	228.8	282.3	323.9	343.2
75°	166.4	191.6	245.1	286.7	301.6
77.5°	132.2	157.5	208.0	240.7	248.1
80°	96.6	121.8	169.4	185.7	190.2
82.5°	65.4	89.1	121.8	126.3	127.8
85°	40.1	55.0	71.3	71.3	71.3
87.5°	19.3	22.3	25.3	23.8	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)