

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: P312818

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-CA08-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: P312818
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)
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-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 3281.0 lumens
Efficiency: N/A
Efficacy: 113.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

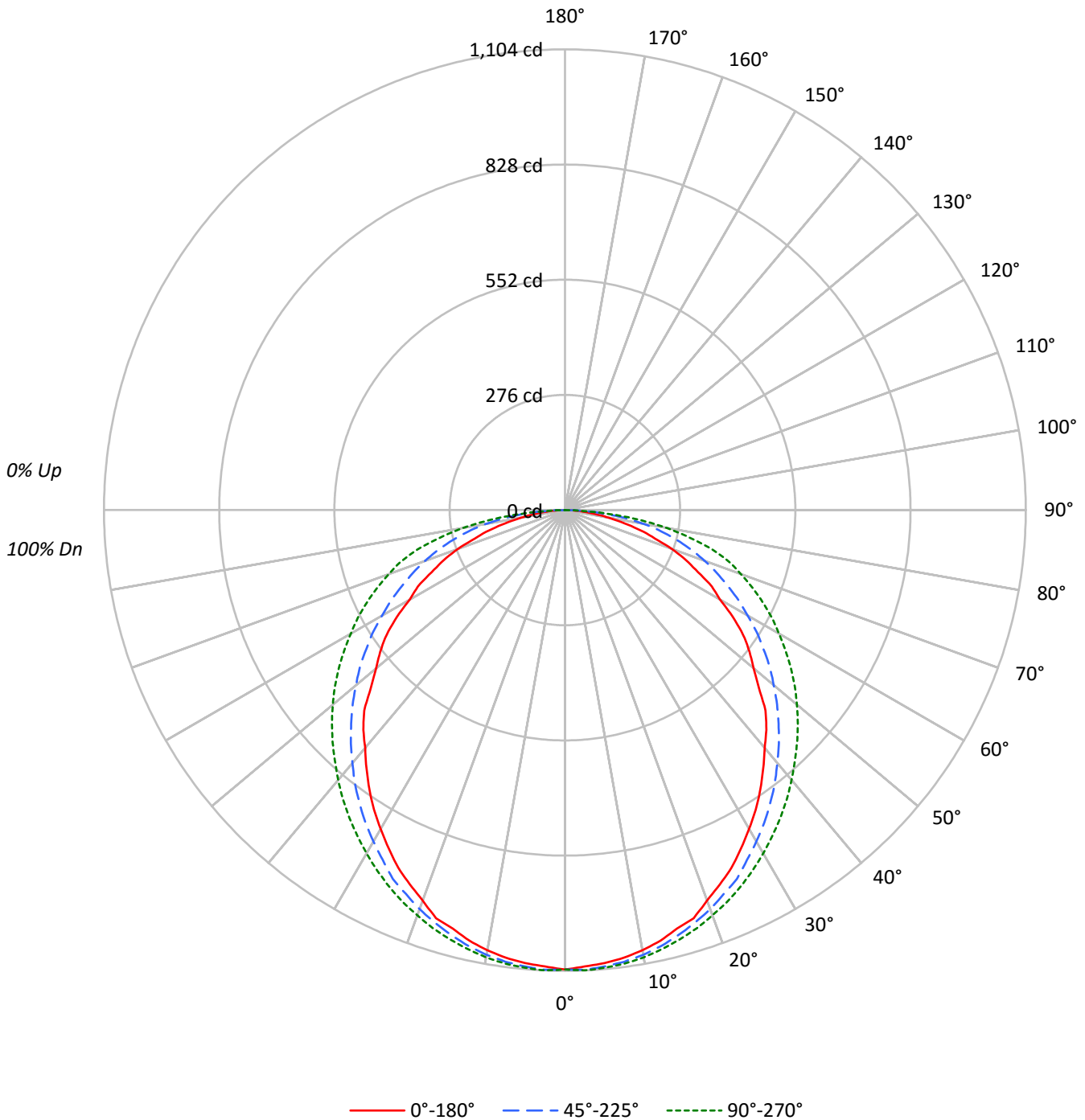
Input Watts (W): 29
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	90	92	89	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	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	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	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2962	2962	2962
5°	2944	2965	2974
10°	2926	2957	2973
15°	2892	2936	2966
20°	2851	2914	2959
25°	2807	2896	2956
30°	2742	2850	2952
35°	2683	2817	2956
40°	2615	2780	2968
45°	2588	2755	2994
50°	2472	2735	3037
55°	2446	2726	3102
60°	2307	2721	3186
65°	2240	2740	3330
70°	2150	2805	3533
75°	1959	2889	3804
80°	1680	2994	3845
85°	1359	2859	3298



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.2	3.2
10°-20°	297.1	9.1
20°-30°	447.2	13.6
30°-40°	536.8	16.4
40°-50°	561.0	17.1
50°-60°	522.8	15.9
60°-70°	428.8	13.1
70°-80°	288.9	8.8
80°-90°	94.1	2.9
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°	848.5	25.9
0°-40°	1385.3	42.2
0°-60°	2469.1	75.3
0°-90°	3281.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3281.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1101	1101	1101	1101	1101	
5°	1090	1093	1098	1099	1101	103
15°	1038	1044	1054	1063	1065	293
25°	945	952	975	989	996	435
35°	817	828	857	887	900	511
45°	680	685	724	768	787	519
55°	521	531	581	636	661	462
65°	352	368	430	493	523	350
75°	188	209	278	341	366	198
85°	44	63	93	108	107	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1100.8	1100.8	1100.8	1100.8	1100.8
2.5°	1094.5	1097.7	1102.4	1103.9	1103.9
5°	1089.8	1093.0	1097.7	1099.2	1100.8
7.5°	1082.0	1085.1	1091.4	1094.5	1096.1
10°	1071.0	1074.1	1082.0	1086.7	1088.2
12.5°	1056.8	1060.0	1069.4	1075.7	1077.2
15°	1038.0	1044.3	1053.7	1063.1	1064.7
17.5°	1025.4	1023.9	1036.4	1047.4	1050.6
20°	995.6	1003.4	1017.6	1030.1	1033.3
22.5°	970.5	976.7	995.6	1009.7	1016.0
25°	945.3	951.6	975.2	989.3	995.6
27.5°	913.9	923.4	945.3	965.8	973.6
30°	882.5	891.9	917.1	940.6	950.1
32.5°	851.1	862.1	888.8	913.9	924.9
35°	816.6	827.6	857.4	887.2	899.8
37.5°	780.5	794.6	826.0	859.0	873.1
40°	744.3	758.5	791.4	829.1	844.8
42.5°	714.5	720.8	758.5	799.3	815.0
45°	680.0	684.7	723.9	767.9	786.7
47.5°	629.7	647.0	689.4	738.1	756.9
50°	590.4	609.3	653.3	705.1	725.5
52.5°	557.5	570.0	618.7	670.5	694.1
55°	521.4	530.8	581.0	636.0	661.1
57.5°	477.4	494.7	544.9	601.4	626.6
60°	428.7	450.7	505.6	566.9	592.0
62.5°	397.3	409.9	469.5	530.8	559.0
65°	351.8	367.5	430.3	493.1	522.9
67.5°	314.1	329.8	394.2	457.0	486.8
70°	273.2	288.9	356.5	419.3	449.1
72.5°	226.1	248.1	318.8	381.6	413.0
75°	188.4	208.9	277.9	340.8	365.9
77.5°	146.0	172.7	237.1	288.9	307.8
80°	108.4	135.0	193.2	230.8	248.1
82.5°	73.8	100.5	144.5	172.7	182.2
85°	44.0	62.8	92.6	108.4	106.8
87.5°	20.4	26.7	37.7	37.7	36.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)