

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: P309035

Luminaire Tested: **22FCZ2-34HE-UNV-L82765-S-CP187-W2A-U-4000K**

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: P309035
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-4000K
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: 3049.0 lumens
Efficiency: N/A
Efficacy: 109.3 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

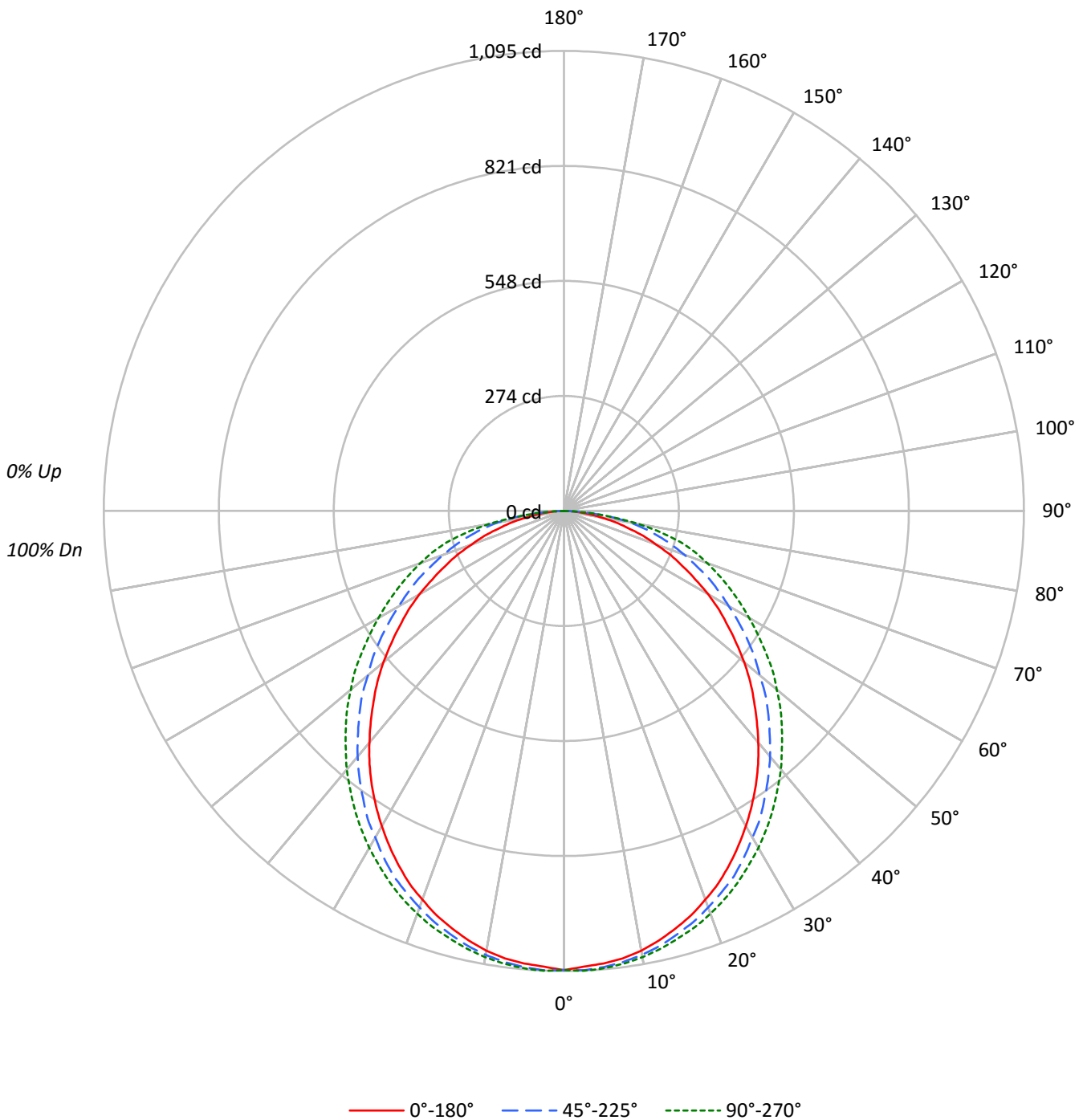
Input Watts (W): 27.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	2940	2940	2940
5°	2921	2944	2951
10°	2904	2931	2946
15°	2865	2905	2933
20°	2819	2876	2921
25°	2763	2847	2902
30°	2692	2789	2878
35°	2617	2738	2851
40°	2529	2683	2824
45°	2436	2620	2794
50°	2346	2549	2769
55°	2236	2503	2750
60°	2136	2442	2741
65°	1993	2428	2772
70°	1836	2407	2854
75°	1656	2440	3003
80°	1433	2514	2822
85°	1186	2109	2109



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.3	3.4
10°-20°	294.0	9.6
20°-30°	439.9	14.4
30°-40°	521.0	17.1
40°-50°	531.0	17.4
50°-60°	475.9	15.6
60°-70°	372.6	12.2
70°-80°	240.3	7.9
80°-90°	71.0	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°	837.3	27.5
0°-40°	1358.3	44.5
0°-60°	2365.2	77.6
0°-90°	3049.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3049.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1081	1084	1090	1091	1093	103
15°	1028	1034	1043	1051	1053	290
25°	930	939	959	972	977	428
35°	797	807	834	859	868	498
45°	640	654	688	724	734	494
55°	477	492	534	570	586	427
65°	313	332	381	418	435	311
75°	159	184	235	275	289	171
85°	38	53	68	68	68	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1092.6	1092.6	1092.6	1092.6	1092.6
2.5°	1085.4	1088.3	1094.0	1095.4	1095.4
5°	1081.2	1084.0	1089.7	1091.1	1092.6
7.5°	1074.1	1075.5	1082.6	1085.4	1086.9
10°	1062.7	1065.5	1072.6	1076.9	1078.3
12.5°	1047.0	1051.3	1059.8	1065.5	1066.9
15°	1028.5	1034.2	1042.8	1051.3	1052.7
17.5°	1008.6	1014.3	1025.7	1035.6	1038.5
20°	984.4	991.5	1004.4	1015.7	1020.0
22.5°	960.3	965.9	981.6	995.8	1000.1
25°	930.4	938.9	958.8	971.6	977.3
27.5°	899.1	909.0	929.0	946.0	951.7
30°	866.4	876.3	897.7	919.0	926.1
32.5°	832.2	843.6	869.2	890.5	897.7
35°	796.7	806.6	833.6	859.2	867.8
37.5°	759.7	768.2	799.5	826.5	835.1
40°	719.8	731.2	763.9	795.2	803.8
42.5°	680.0	692.8	725.5	759.7	768.2
45°	640.2	654.4	688.5	724.1	734.1
47.5°	601.8	613.1	651.5	685.7	699.9
50°	560.5	571.9	608.9	647.3	661.5
52.5°	517.8	533.5	573.3	610.3	627.4
55°	476.6	492.2	533.5	570.5	586.1
57.5°	438.2	451.0	493.6	532.0	547.7
60°	396.9	408.3	453.8	495.1	509.3
62.5°	352.8	369.9	416.8	455.2	472.3
65°	313.0	331.5	381.3	418.2	435.3
67.5°	276.0	293.1	341.4	381.3	399.7
70°	233.3	256.1	305.9	345.7	362.8
72.5°	199.2	219.1	270.3	310.1	328.6
75°	159.3	183.5	234.7	274.6	288.8
77.5°	126.6	150.8	199.2	230.5	237.6
80°	92.5	116.7	162.2	177.8	182.1
82.5°	62.6	85.4	116.7	120.9	122.3
85°	38.4	52.6	68.3	68.3	68.3
87.5°	18.5	21.3	24.2	22.8	22.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)