

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: P312982

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-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: P312982
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-4000K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 4000K 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: 3207.0 lumens
Efficiency: N/A
Efficacy: 113.7 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

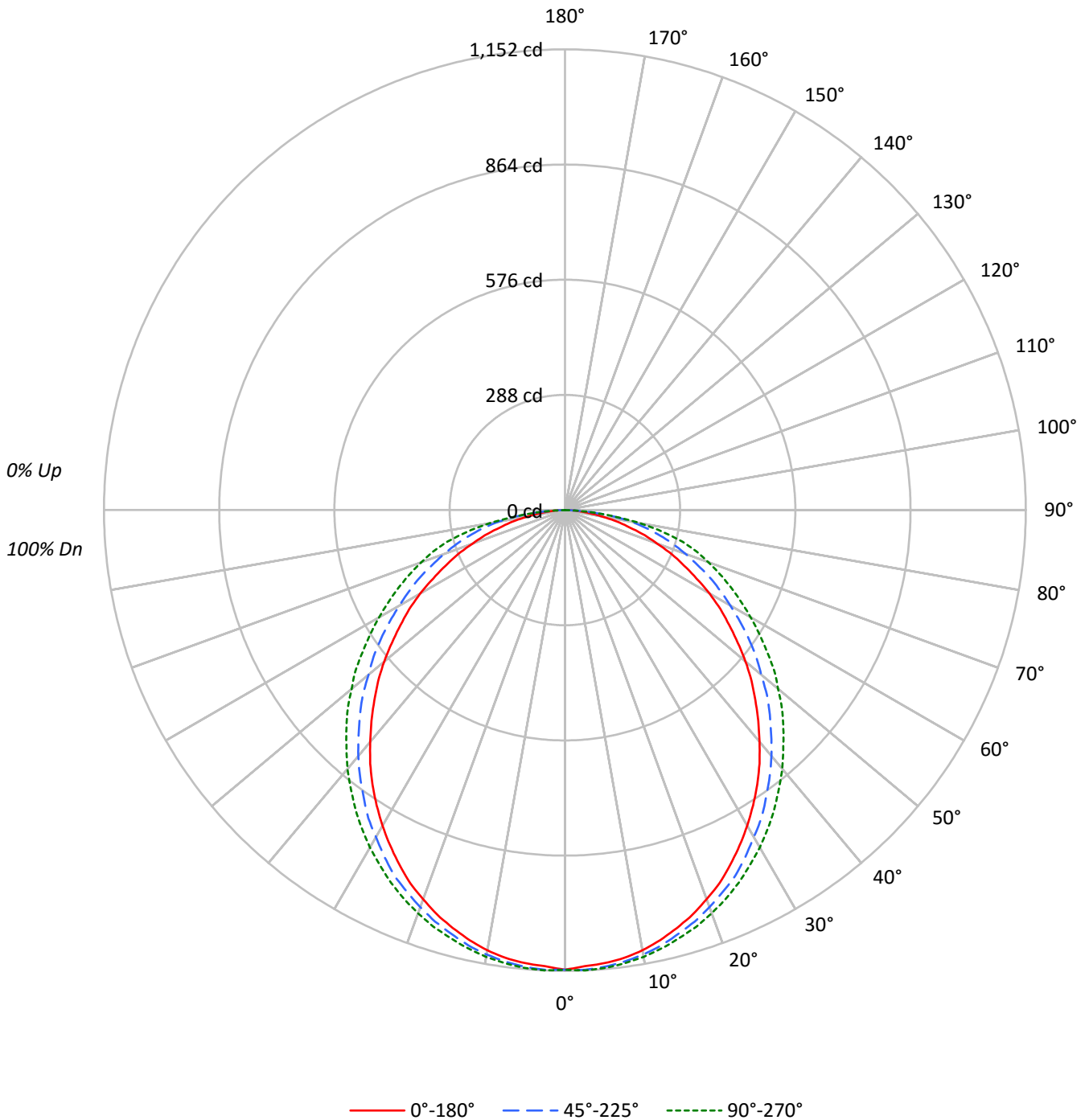
Input Watts (W): 28.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3092	3092	3092
5°	3072	3096	3104
10°	3054	3083	3099
15°	3014	3056	3085
20°	2965	3025	3072
25°	2906	2994	3052
30°	2832	2934	3027
35°	2753	2880	2999
40°	2660	2823	2970
45°	2562	2756	2938
50°	2468	2681	2913
55°	2352	2632	2892
60°	2247	2569	2883
65°	2096	2553	2916
70°	1931	2531	3002
75°	1743	2567	3159
80°	1508	2644	2968
85°	1247	2217	2217



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.7	3.4
10°-20°	309.3	9.6
20°-30°	462.7	14.4
30°-40°	548.0	17.1
40°-50°	558.5	17.4
50°-60°	500.5	15.6
60°-70°	391.9	12.2
70°-80°	252.7	7.9
80°-90°	74.6	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°	880.7	27.5
0°-40°	1428.7	44.5
0°-60°	2487.7	77.6
0°-90°	3207.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3207.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1149	1149	1149	1149	1149	
5°	1137	1140	1146	1148	1149	108
15°	1082	1088	1097	1106	1107	305
25°	979	988	1008	1022	1028	450
35°	838	848	877	904	913	524
45°	673	688	724	762	772	520
55°	501	518	561	600	616	449
65°	329	349	401	440	458	327
75°	168	193	247	289	304	180
85°	40	55	72	72	72	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1149.2	1149.2	1149.2	1149.2	1149.2
2.5°	1141.7	1144.7	1150.7	1152.2	1152.2
5°	1137.2	1140.2	1146.2	1147.7	1149.2
7.5°	1129.7	1131.2	1138.7	1141.7	1143.2
10°	1117.7	1120.7	1128.2	1132.7	1134.2
12.5°	1101.3	1105.8	1114.8	1120.7	1122.2
15°	1081.8	1087.8	1096.8	1105.8	1107.3
17.5°	1060.9	1066.9	1078.8	1089.3	1092.3
20°	1035.4	1042.9	1056.4	1068.4	1072.9
22.5°	1010.0	1016.0	1032.5	1047.4	1051.9
25°	978.6	987.6	1008.5	1022.0	1028.0
27.5°	945.7	956.1	977.1	995.0	1001.0
30°	911.3	921.7	944.2	966.6	974.1
32.5°	875.3	887.3	914.2	936.7	944.2
35°	837.9	848.4	876.8	903.8	912.8
37.5°	799.0	808.0	840.9	869.4	878.3
40°	757.1	769.1	803.5	836.4	845.4
42.5°	715.2	728.7	763.1	799.0	808.0
45°	673.3	688.3	724.2	761.6	772.1
47.5°	632.9	644.9	685.3	721.2	736.2
50°	589.5	601.5	640.4	680.8	695.8
52.5°	544.7	561.1	603.0	641.9	659.9
55°	501.3	517.7	561.1	600.0	616.5
57.5°	460.9	474.3	519.2	559.6	576.1
60°	417.5	429.4	477.3	520.7	535.7
62.5°	371.1	389.0	438.4	478.8	496.8
65°	329.2	348.6	401.0	439.9	457.9
67.5°	290.3	308.2	359.1	401.0	420.5
70°	245.4	269.3	321.7	363.6	381.6
72.5°	209.5	230.4	284.3	326.2	345.6
75°	167.6	193.0	246.9	288.8	303.8
77.5°	133.2	158.6	209.5	242.4	249.9
80°	97.3	122.7	170.6	187.0	191.5
82.5°	65.8	89.8	122.7	127.2	128.7
85°	40.4	55.4	71.8	71.8	71.8
87.5°	19.5	22.4	25.4	23.9	23.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)