

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: P312968

Luminaire Tested: **22FCZ2-34HE-UNV-L83050-S-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: P312968
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-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH 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: 3460.0 lumens
Efficiency: N/A
Efficacy: 119.3 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

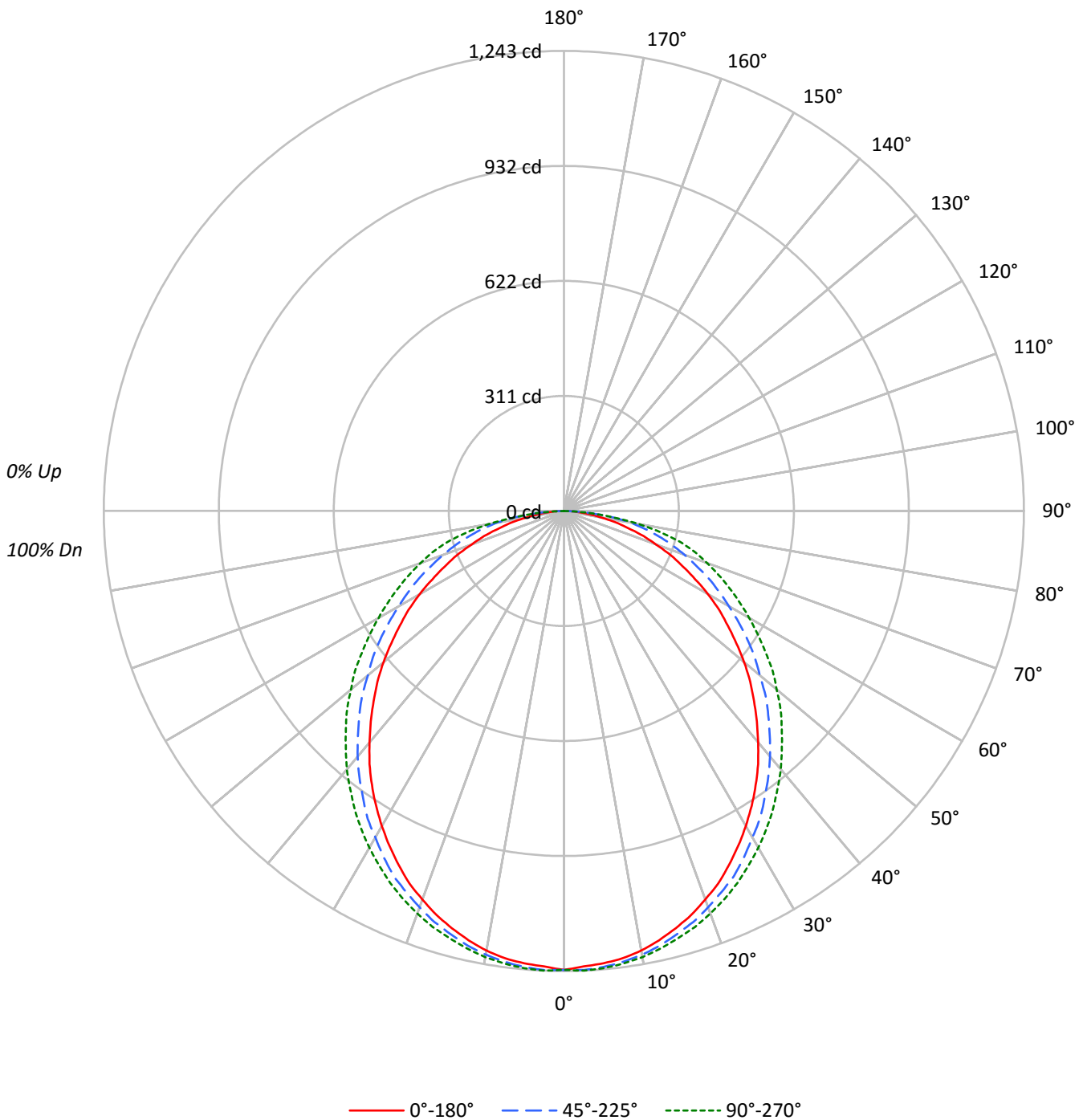
Input Watts (W): 29
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3336	3336	3336
5°	3314	3340	3349
10°	3295	3326	3344
15°	3252	3297	3328
20°	3199	3264	3315
25°	3135	3231	3293
30°	3055	3165	3265
35°	2970	3108	3235
40°	2870	3045	3204
45°	2765	2973	3170
50°	2663	2892	3143
55°	2537	2840	3120
60°	2424	2772	3110
65°	2262	2755	3145
70°	2083	2731	3239
75°	1880	2770	3407
80°	1626	2851	3202
85°	1346	2393	2393



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.2	3.4
10°-20°	333.7	9.6
20°-30°	499.3	14.4
30°-40°	591.2	17.1
40°-50°	602.5	17.4
50°-60°	540.1	15.6
60°-70°	422.8	12.2
70°-80°	272.6	7.9
80°-90°	80.5	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°	950.2	27.5
0°-40°	1541.4	44.5
0°-60°	2684.0	77.6
0°-90°	3460.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3460.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1227	1230	1237	1238	1240	116
15°	1167	1174	1183	1193	1195	329
25°	1056	1066	1088	1103	1109	486
35°	904	915	946	975	985	565
45°	726	743	781	822	833	561
55°	541	559	605	647	665	485
65°	355	376	433	475	494	353
75°	181	208	266	312	328	194
85°	44	60	78	78	78	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1239.8	1239.8	1239.8	1239.8	1239.8
2.5°	1231.8	1235.0	1241.4	1243.1	1243.1
5°	1226.9	1230.1	1236.6	1238.2	1239.8
7.5°	1218.8	1220.5	1228.5	1231.8	1233.4
10°	1205.9	1209.2	1217.2	1222.1	1223.7
12.5°	1188.2	1193.0	1202.7	1209.2	1210.8
15°	1167.2	1173.6	1183.3	1193.0	1194.6
17.5°	1144.6	1151.0	1164.0	1175.3	1178.5
20°	1117.1	1125.2	1139.7	1152.7	1157.5
22.5°	1089.7	1096.1	1113.9	1130.0	1134.9
25°	1055.8	1065.5	1088.1	1102.6	1109.1
27.5°	1020.3	1031.6	1054.2	1073.5	1080.0
30°	983.1	994.4	1018.7	1042.9	1050.9
32.5°	944.4	957.3	986.4	1010.6	1018.7
35°	904.0	915.3	946.0	975.1	984.8
37.5°	862.1	871.8	907.3	937.9	947.6
40°	816.9	829.8	866.9	902.4	912.1
42.5°	771.7	786.2	823.3	862.1	871.8
45°	726.5	742.6	781.3	821.7	833.0
47.5°	682.9	695.8	739.4	778.1	794.3
50°	636.1	649.0	690.9	734.5	750.7
52.5°	587.6	605.4	650.6	692.6	711.9
55°	540.8	558.6	605.4	647.4	665.1
57.5°	497.2	511.8	560.2	603.8	621.5
60°	450.4	463.3	515.0	561.8	577.9
62.5°	400.4	419.7	473.0	516.6	536.0
65°	355.2	376.1	432.6	474.6	494.0
67.5°	313.2	332.6	387.4	432.6	453.6
70°	264.8	290.6	347.1	392.3	411.7
72.5°	226.0	248.6	306.7	351.9	372.9
75°	180.8	208.3	266.4	311.6	327.7
77.5°	143.7	171.1	226.0	261.5	269.6
80°	104.9	132.4	184.0	201.8	206.6
82.5°	71.0	96.9	132.4	137.2	138.8
85°	43.6	59.7	77.5	77.5	77.5
87.5°	21.0	24.2	27.4	25.8	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)