

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: P314181

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-S-CP187-W2A-U-3500K**

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: P314181
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30HE-UNV-L83050-S-CP187-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3500K 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: 2760.0 lumens
Efficiency: N/A
Efficacy: 130.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

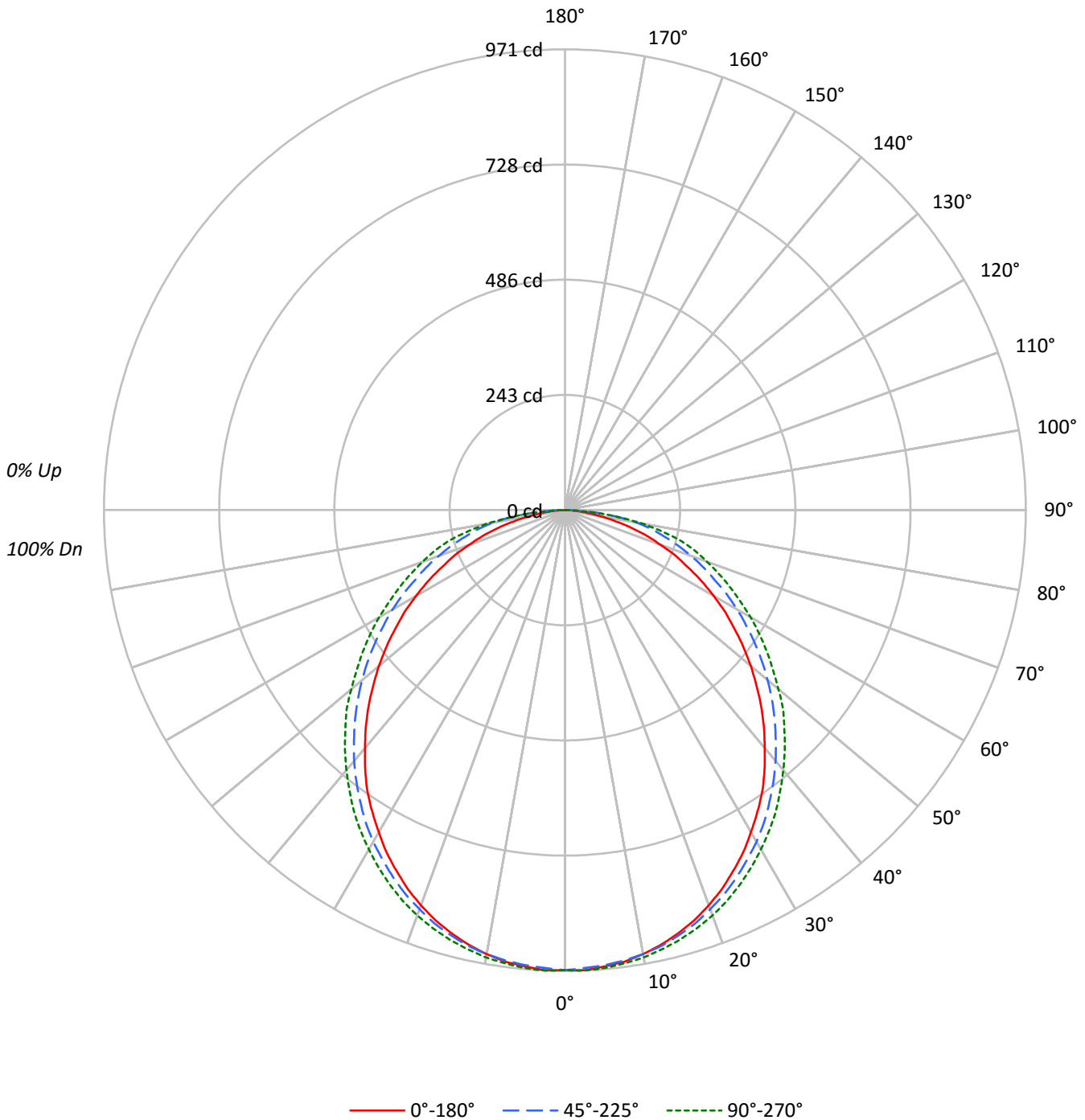
Input Watts (W): 21.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1305	1305	1305
5°	1304	1300	1308
10°	1298	1298	1308
15°	1286	1292	1305
20°	1269	1282	1302
25°	1246	1269	1294
30°	1218	1254	1283
35°	1191	1234	1273
40°	1150	1213	1258
45°	1113	1189	1244
50°	1070	1167	1230
55°	1022	1145	1217
60°	974	1128	1215
65°	913	1108	1223
70°	845	1114	1255
75°	756	1135	1326
80°	611	1203	1297
85°	460	1056	1028



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.8	3.3
10°-20°	262.3	9.5
20°-30°	394.3	14.3
30°-40°	469.6	17.0
40°-50°	480.7	17.4
50°-60°	432.7	15.7
60°-70°	339.8	12.3
70°-80°	220.6	8.0
80°-90°	68.2	2.5
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°	748.4	27.1
0°-40°	1218.0	44.1
0°-60°	2131.4	77.2
0°-90°	2760.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2760.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	970	970	970	970	970	
5°	965	967	963	968	969	92
15°	923	926	928	935	937	260
25°	839	846	855	869	871	387
35°	725	734	751	770	775	452
45°	585	599	625	649	654	451
55°	436	455	488	514	519	391
65°	287	309	348	377	384	285
75°	146	174	218	248	255	154
85°	30	55	68	67	67	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	969.6	969.6	969.6	969.6	969.6
2.5°	970.5	970.5	966.1	970.5	971.4
5°	965.2	967.0	962.6	967.9	968.7
7.5°	960.0	960.0	957.3	962.6	963.5
10°	950.3	951.2	950.3	956.5	957.3
12.5°	938.0	939.8	940.7	946.8	947.7
15°	923.1	925.8	927.5	935.4	937.2
17.5°	906.5	909.1	913.5	922.3	924.0
20°	886.3	889.8	895.1	906.5	909.1
22.5°	864.4	867.9	876.7	887.2	891.6
25°	839.0	846.0	854.8	868.8	871.4
27.5°	813.6	819.7	831.1	846.0	849.5
30°	783.8	793.4	807.4	822.3	825.8
32.5°	754.8	764.5	781.1	796.9	801.3
35°	725.0	733.8	751.3	769.7	775.0
37.5°	690.8	702.2	721.5	739.9	745.2
40°	654.9	668.9	690.8	710.1	716.2
42.5°	620.7	635.6	657.5	678.5	685.6
45°	584.7	598.8	625.1	648.7	654.0
47.5°	547.9	563.7	591.8	615.4	624.2
50°	511.1	527.8	557.6	582.1	587.4
52.5°	474.3	491.8	523.4	549.7	552.3
55°	435.7	455.0	488.3	513.7	519.0
57.5°	400.6	417.3	453.2	479.5	485.7
60°	362.1	380.5	419.1	443.6	451.5
62.5°	325.2	344.5	384.9	409.4	416.4
65°	286.7	308.6	348.0	377.0	384.0
67.5°	253.4	274.4	316.5	344.5	351.5
70°	214.8	238.5	283.2	312.1	319.1
72.5°	181.5	206.0	250.7	278.8	289.3
75°	145.5	173.6	218.3	248.1	255.1
77.5°	110.5	142.9	188.5	211.3	211.3
80°	78.9	113.1	155.2	165.7	167.4
82.5°	51.7	85.0	114.8	114.0	114.0
85°	29.8	55.2	68.4	66.6	66.6
87.5°	11.4	22.8	24.5	24.5	23.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)