

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: P311195

Luminaire Tested: **24FCZ2-30HE-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: P311195
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-L82765-S-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 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: 2754.0 lumens
Efficiency: N/A
Efficacy: 129.3 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

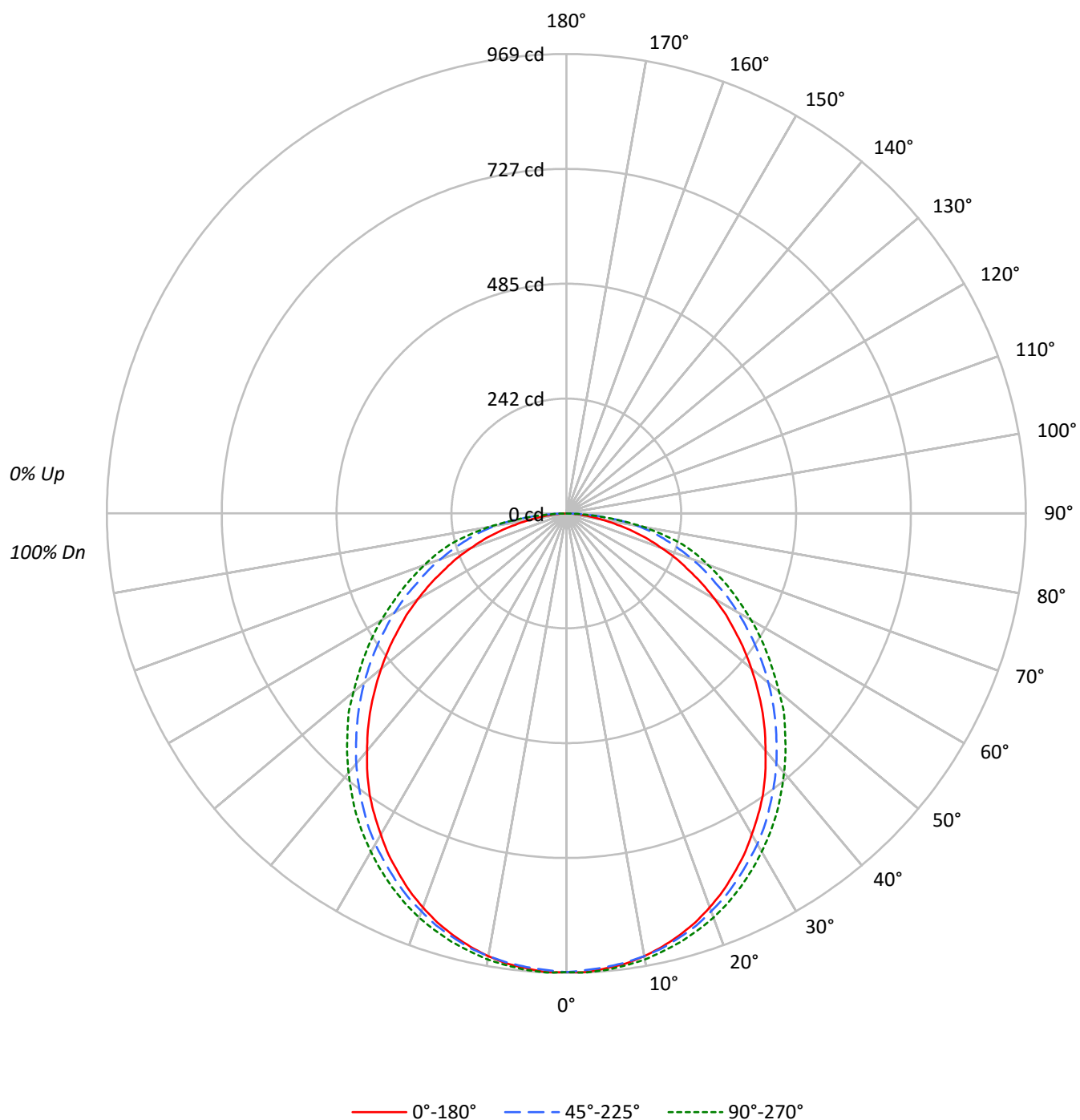
Input Watts (W): 21.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1302	1302	1302
5°	1301	1297	1306
10°	1296	1296	1305
15°	1283	1289	1303
20°	1266	1279	1299
25°	1243	1266	1291
30°	1215	1252	1280
35°	1188	1231	1270
40°	1148	1211	1255
45°	1110	1187	1242
50°	1068	1165	1227
55°	1020	1143	1215
60°	972	1125	1212
65°	911	1106	1220
70°	843	1112	1253
75°	755	1132	1324
80°	610	1199	1295
85°	459	1053	1027



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.6	3.3
10°-20°	261.7	9.5
20°-30°	393.4	14.3
30°-40°	468.6	17.0
40°-50°	479.6	17.4
50°-60°	431.8	15.7
60°-70°	339.1	12.3
70°-80°	220.1	8.0
80°-90°	68.1	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°	746.7	27.1
0°-40°	1215.4	44.1
0°-60°	2126.8	77.2
0°-90°	2754.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2754.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	968	968	968	968	968	
5°	963	965	960	966	967	92
15°	921	924	926	933	935	260
25°	837	844	853	867	870	386
35°	723	732	750	768	773	451
45°	584	598	624	647	653	450
55°	435	454	487	513	518	390
65°	286	308	347	376	383	285
75°	145	173	218	248	255	154
85°	30	55	68	66	66	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	967.5	967.5	967.5	967.5	967.5
2.5°	968.4	968.4	964.0	968.4	969.2
5°	963.1	964.9	960.5	965.7	966.6
7.5°	957.9	957.9	955.3	960.5	961.4
10°	948.3	949.1	948.3	954.4	955.3
12.5°	936.0	937.8	938.6	944.8	945.6
15°	921.1	923.8	925.5	933.4	935.1
17.5°	904.5	907.1	911.5	920.3	922.0
20°	884.4	887.9	893.1	904.5	907.1
22.5°	862.5	866.0	874.8	885.3	889.6
25°	837.2	844.2	852.9	866.9	869.5
27.5°	811.8	817.9	829.3	844.2	847.7
30°	782.0	791.7	805.7	820.5	824.0
32.5°	753.2	762.8	779.4	795.2	799.5
35°	723.4	732.2	749.7	768.1	773.3
37.5°	689.3	700.7	719.9	738.3	743.6
40°	653.5	667.5	689.3	708.6	714.7
42.5°	619.3	634.2	656.1	677.1	684.1
45°	583.5	597.5	623.7	647.3	652.6
47.5°	546.7	562.5	590.5	614.1	622.8
50°	510.0	526.6	556.4	580.8	586.1
52.5°	473.3	490.7	522.2	548.5	551.1
55°	434.8	454.0	487.2	512.6	517.9
57.5°	399.8	416.4	452.3	478.5	484.6
60°	361.3	379.7	418.1	442.6	450.5
62.5°	324.5	343.8	384.0	408.5	415.5
65°	286.1	307.9	347.3	376.2	383.2
67.5°	252.8	273.8	315.8	343.8	350.8
70°	214.3	237.9	282.6	311.4	318.4
72.5°	181.1	205.6	250.2	278.2	288.7
75°	145.2	173.2	217.8	247.6	254.6
77.5°	110.2	142.6	188.1	210.8	210.8
80°	78.7	112.8	154.8	165.3	167.1
82.5°	51.6	84.9	114.6	113.7	113.7
85°	29.7	55.1	68.2	66.5	66.5
87.5°	11.4	22.7	24.5	24.5	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)