

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: P311176

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CA125-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: P311176
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-CA125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" ACRYLIC 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: 2870.0 lumens
Efficiency: N/A
Efficacy: 135.4 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

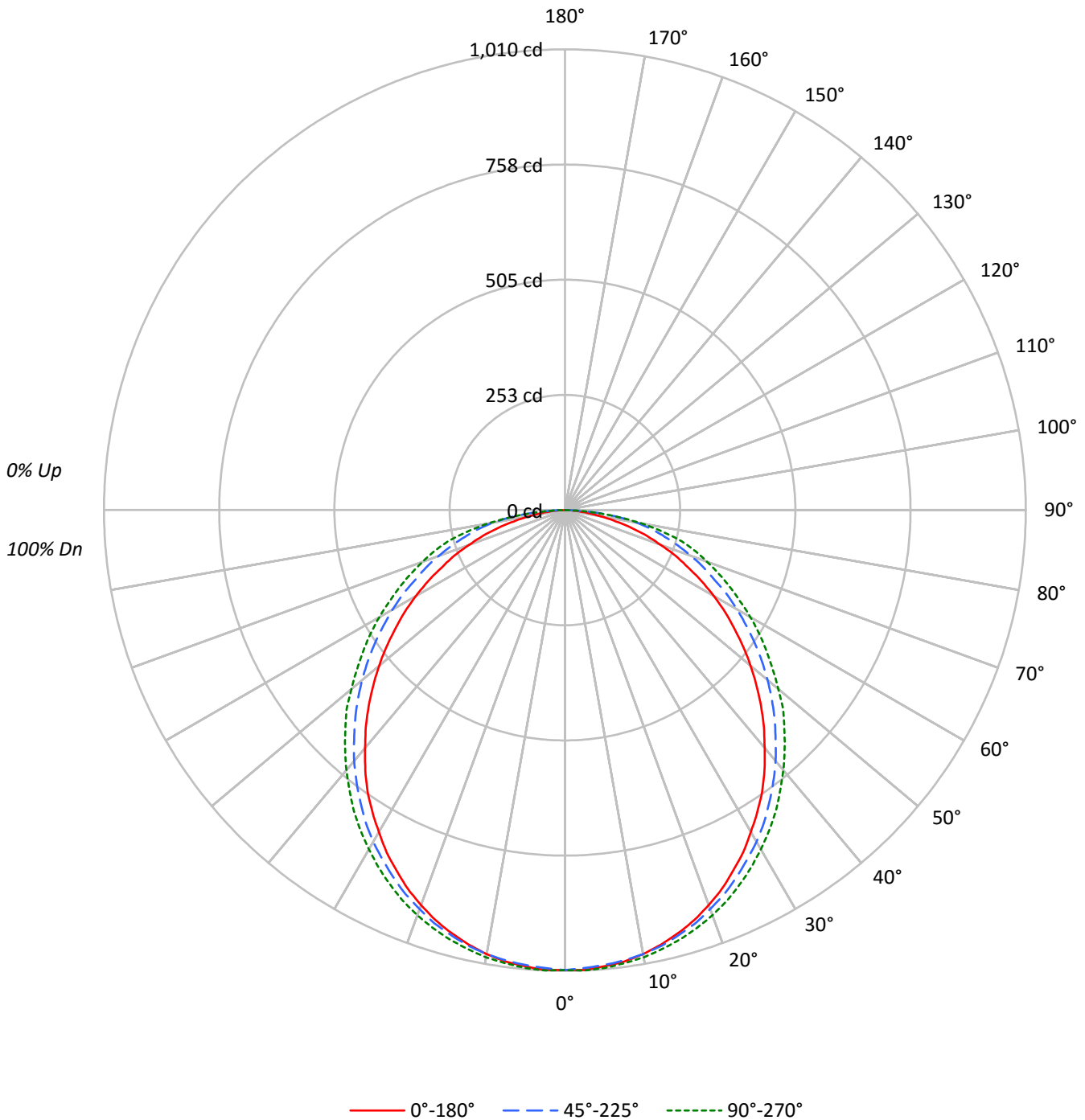
Input Watts (W): 21.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1357	1357	1357
5°	1356	1352	1360
10°	1350	1350	1360
15°	1337	1344	1357
20°	1320	1333	1354
25°	1295	1319	1345
30°	1266	1304	1334
35°	1238	1283	1324
40°	1196	1262	1308
45°	1157	1237	1294
50°	1113	1214	1279
55°	1063	1191	1266
60°	1013	1173	1263
65°	949	1152	1271
70°	878	1159	1305
75°	787	1180	1379
80°	635	1251	1349
85°	479	1098	1070



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.5	3.3
10°-20°	272.7	9.5
20°-30°	410.0	14.3
30°-40°	488.4	17.0
40°-50°	499.8	17.4
50°-60°	450.0	15.7
60°-70°	353.4	12.3
70°-80°	229.3	8.0
80°-90°	70.9	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°	778.2	27.1
0°-40°	1266.5	44.1
0°-60°	2216.3	77.2
0°-90°	2870.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2870.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1008	1008	1008	1008	1008	
5°	1004	1006	1001	1006	1007	95
15°	960	963	964	973	974	271
25°	872	880	889	903	906	402
35°	754	763	781	800	806	470
45°	608	623	650	675	680	469
55°	453	473	508	534	540	406
65°	298	321	362	392	399	297
75°	151	180	227	258	265	160
85°	31	57	71	69	69	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1008.2	1008.2	1008.2	1008.2	1008.2
2.5°	1009.2	1009.2	1004.6	1009.2	1010.1
5°	1003.7	1005.5	1001.0	1006.4	1007.3
7.5°	998.2	998.2	995.5	1001.0	1001.9
10°	988.2	989.1	988.2	994.6	995.5
12.5°	975.4	977.3	978.2	984.5	985.5
15°	959.9	962.7	964.5	972.7	974.5
17.5°	942.6	945.3	949.9	959.0	960.8
20°	921.6	925.3	930.8	942.6	945.3
22.5°	898.9	902.5	911.6	922.6	927.1
25°	872.4	879.7	888.8	903.4	906.1
27.5°	846.0	852.4	864.2	879.7	883.4
30°	815.0	825.0	839.6	855.1	858.7
32.5°	784.9	794.9	812.3	828.7	833.2
35°	753.9	763.0	781.3	800.4	805.9
37.5°	718.4	730.2	750.3	769.4	774.9
40°	681.0	695.6	718.4	738.4	744.8
42.5°	645.4	660.9	683.7	705.6	712.9
45°	608.0	622.6	650.0	674.6	680.1
47.5°	569.8	586.2	615.3	640.0	649.1
50°	531.5	548.8	579.8	605.3	610.8
52.5°	493.2	511.4	544.2	571.6	574.3
55°	453.1	473.1	507.8	534.2	539.7
57.5°	416.6	433.9	471.3	498.7	505.0
60°	376.5	395.6	435.8	461.3	469.5
62.5°	338.2	358.3	400.2	425.7	433.0
65°	298.1	320.9	361.9	392.0	399.3
67.5°	263.5	285.3	329.1	358.3	365.6
70°	223.3	248.0	294.5	324.5	331.8
72.5°	188.7	214.2	260.7	289.9	300.8
75°	151.3	180.5	227.0	258.0	265.3
77.5°	114.9	148.6	196.0	219.7	219.7
80°	82.0	117.6	161.4	172.3	174.1
82.5°	53.8	88.4	119.4	118.5	118.5
85°	31.0	57.4	71.1	69.3	69.3
87.5°	11.9	23.7	25.5	25.5	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)