

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: P311198

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CP187-W2A-U-5500K**

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: P311198
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-5500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5500K 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: 2869.0 lumens
Efficiency: N/A
Efficacy: 132.2 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

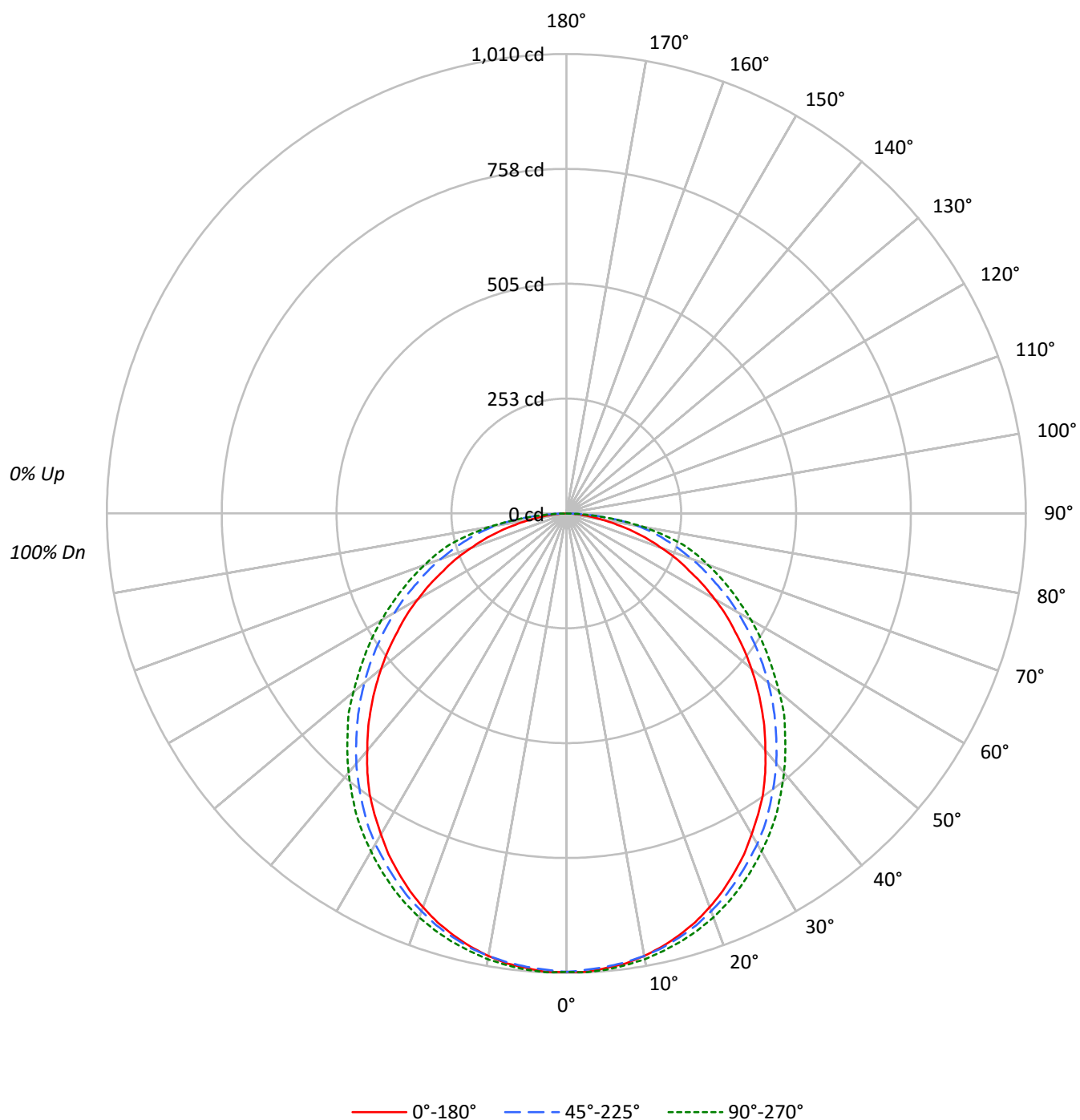
Input Watts (W): 21.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1356	1356	1356
5°	1355	1351	1360
10°	1350	1350	1360
15°	1337	1343	1357
20°	1319	1332	1353
25°	1295	1319	1345
30°	1266	1304	1334
35°	1238	1283	1323
40°	1196	1261	1308
45°	1157	1236	1294
50°	1112	1213	1278
55°	1062	1191	1266
60°	1013	1172	1263
65°	949	1152	1271
70°	878	1158	1305
75°	787	1180	1379
80°	635	1250	1349
85°	479	1098	1070



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.4	3.3
10°-20°	272.6	9.5
20°-30°	409.8	14.3
30°-40°	488.2	17.0
40°-50°	499.6	17.4
50°-60°	449.8	15.7
60°-70°	353.3	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°	777.9	27.1
0°-40°	1266.1	44.1
0°-60°	2215.6	77.2
0°-90°	2869.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2869.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1008	1008	1008	1008	1008	
5°	1003	1005	1001	1006	1007	95
15°	960	962	964	972	974	271
25°	872	879	888	903	906	402
35°	754	763	781	800	806	470
45°	608	622	650	674	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°	1007.9	1007.9	1007.9	1007.9	1007.9
2.5°	1008.8	1008.8	1004.3	1008.8	1009.7
5°	1003.3	1005.2	1000.6	1006.1	1007.0
7.5°	997.9	997.9	995.1	1000.6	1001.5
10°	987.8	988.8	987.8	994.2	995.1
12.5°	975.1	976.9	977.8	984.2	985.1
15°	959.6	962.3	964.2	972.4	974.2
17.5°	942.3	945.0	949.6	958.7	960.5
20°	921.3	925.0	930.4	942.3	945.0
22.5°	898.5	902.2	911.3	922.2	926.8
25°	872.1	879.4	888.5	903.1	905.8
27.5°	845.7	852.1	863.9	879.4	883.1
30°	814.7	824.7	839.3	854.8	858.4
32.5°	784.6	794.7	812.0	828.4	832.9
35°	753.6	762.8	781.0	800.1	805.6
37.5°	718.1	730.0	750.0	769.1	774.6
40°	680.7	695.3	718.1	738.2	744.5
42.5°	645.2	660.7	683.5	705.3	712.6
45°	607.8	622.4	649.8	674.4	679.8
47.5°	569.6	586.0	615.1	639.7	648.8
50°	531.3	548.6	579.6	605.1	610.6
52.5°	493.0	511.2	544.0	571.4	574.1
55°	452.9	473.0	507.6	534.0	539.5
57.5°	416.5	433.8	471.1	498.5	504.9
60°	376.4	395.5	435.6	461.1	469.3
62.5°	338.1	358.1	400.1	425.6	432.9
65°	298.0	320.8	361.8	391.9	399.1
67.5°	263.4	285.2	329.0	358.1	365.4
70°	223.3	247.9	294.4	324.4	331.7
72.5°	188.6	214.2	260.6	289.8	300.7
75°	151.3	180.4	226.9	257.9	265.2
77.5°	114.8	148.5	195.9	219.6	219.6
80°	82.0	117.6	161.3	172.2	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°	11.8	23.7	25.5	25.5	24.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)