

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: P311197

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CP187-W2A-U-5000K**

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: P311197
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-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 2841.0 lumens
Efficiency: N/A
Efficacy: 131.5 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

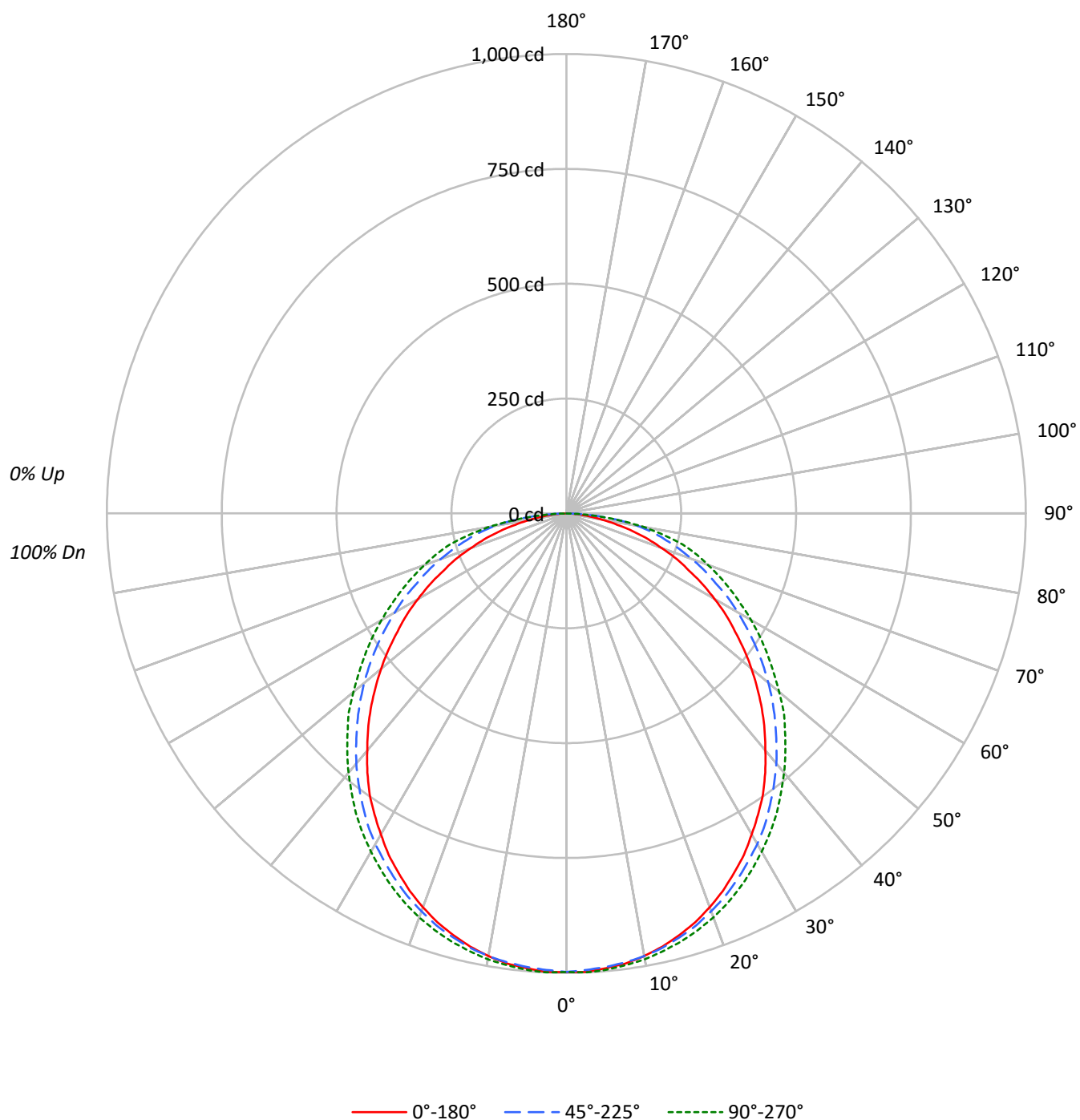
Input Watts (W): 21.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1343	1343	1343
5°	1342	1338	1347
10°	1336	1336	1346
15°	1324	1330	1344
20°	1306	1319	1340
25°	1282	1306	1332
30°	1253	1291	1321
35°	1226	1270	1310
40°	1184	1249	1295
45°	1145	1224	1281
50°	1101	1201	1266
55°	1052	1179	1253
60°	1003	1161	1250
65°	940	1141	1259
70°	870	1147	1292
75°	779	1168	1365
80°	629	1237	1336
85°	474	1087	1059



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.5	3.3
10°-20°	270.0	9.5
20°-30°	405.8	14.3
30°-40°	483.4	17.0
40°-50°	494.8	17.4
50°-60°	445.4	15.7
60°-70°	349.8	12.3
70°-80°	227.0	8.0
80°-90°	70.2	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°	770.3	27.1
0°-40°	1253.7	44.1
0°-60°	2193.9	77.2
0°-90°	2841.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2841.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	998	998	998	998	998	
5°	994	995	991	996	997	94
15°	950	953	955	963	965	268
25°	864	871	880	894	897	398
35°	746	755	773	792	798	466
45°	602	616	643	668	673	464
55°	448	468	503	529	534	402
65°	295	318	358	388	395	294
75°	150	179	225	255	263	159
85°	31	57	70	69	69	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	998.1	998.1	998.1	998.1	998.1
2.5°	999.0	999.0	994.5	999.0	999.9
5°	993.5	995.4	990.8	996.3	997.2
7.5°	988.1	988.1	985.4	990.8	991.7
10°	978.2	979.1	978.2	984.5	985.4
12.5°	965.6	967.4	968.3	974.6	975.5
15°	950.2	952.9	954.7	962.9	964.7
17.5°	933.1	935.8	940.3	949.3	951.1
20°	912.3	915.9	921.4	933.1	935.8
22.5°	889.8	893.4	902.4	913.2	917.7
25°	863.6	870.8	879.8	894.3	897.0
27.5°	837.4	843.8	855.5	870.8	874.4
30°	806.8	816.7	831.1	846.5	850.1
32.5°	777.0	786.9	804.0	820.3	824.8
35°	746.3	755.3	773.4	792.3	797.7
37.5°	711.1	722.8	742.7	761.6	767.0
40°	674.1	688.5	711.1	730.9	737.3
42.5°	638.9	654.2	676.8	698.5	705.7
45°	601.9	616.3	643.4	667.8	673.2
47.5°	564.0	580.2	609.1	633.5	642.5
50°	526.1	543.2	573.9	599.2	604.6
52.5°	488.2	506.3	538.7	565.8	568.5
55°	448.5	468.3	502.6	528.8	534.2
57.5°	412.4	429.5	466.5	493.6	499.9
60°	372.7	391.6	431.4	456.6	464.7
62.5°	334.8	354.6	396.2	421.4	428.6
65°	295.1	317.6	358.3	388.0	395.3
67.5°	260.8	282.5	325.8	354.6	361.9
70°	221.1	245.5	291.5	321.3	328.5
72.5°	186.8	212.1	258.1	287.0	297.8
75°	149.8	178.7	224.7	255.4	262.6
77.5°	113.7	147.1	194.0	217.5	217.5
80°	81.2	116.4	159.7	170.6	172.4
82.5°	53.2	87.5	118.2	117.3	117.3
85°	30.7	56.9	70.4	68.6	68.6
87.5°	11.7	23.5	25.3	25.3	24.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)