

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: P311330

Luminaire Tested: **24FCZ2-35-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: P311330
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: 24FCZ2-35-UNV-L82765-S-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 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: 3192.0 lumens
Efficiency: N/A
Efficacy: 112.8 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

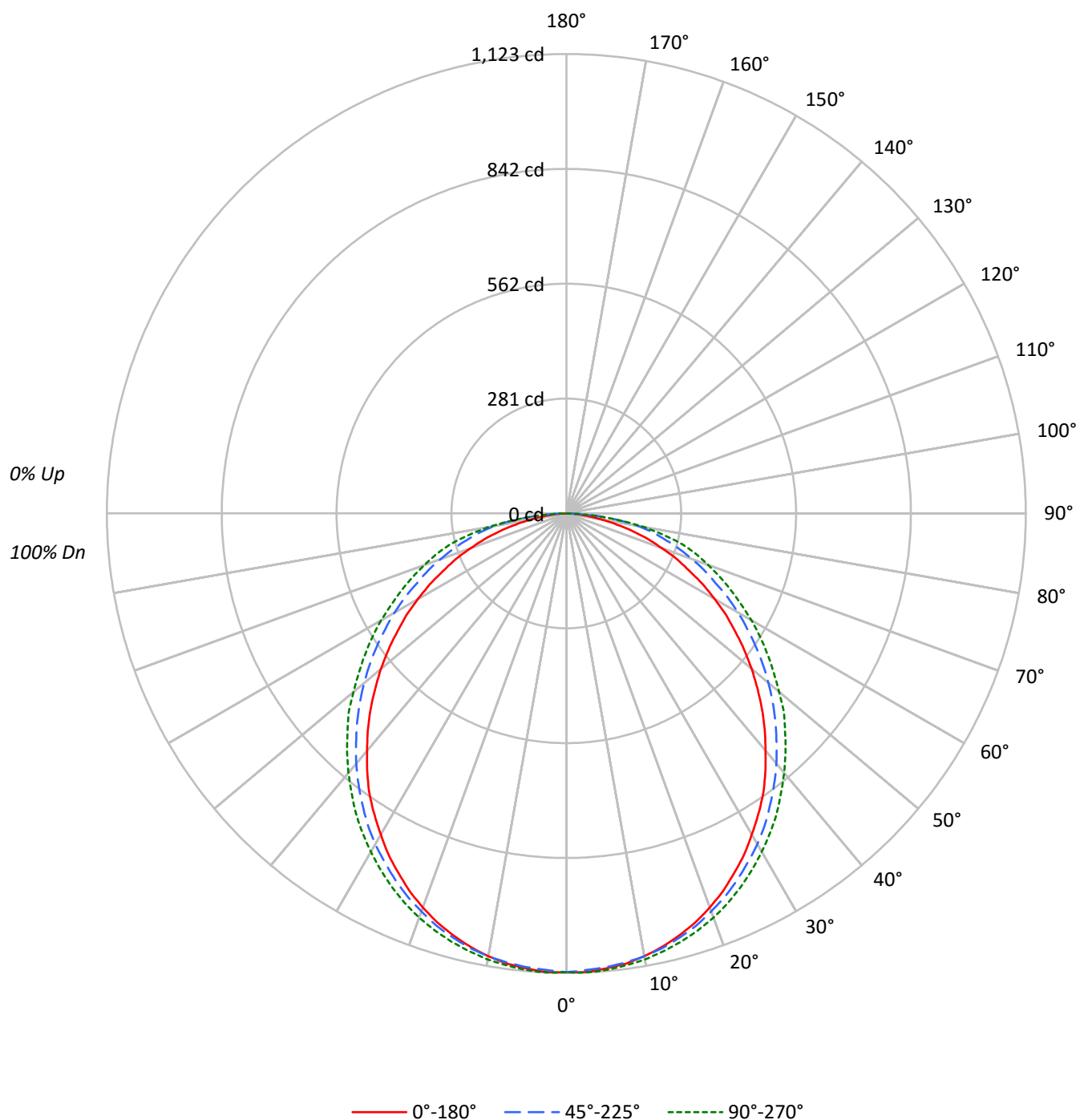
Input Watts (W): 28.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1509	1509	1509
5°	1508	1504	1513
10°	1502	1502	1513
15°	1487	1494	1510
20°	1468	1482	1505
25°	1440	1468	1496
30°	1408	1451	1484
35°	1377	1427	1472
40°	1330	1403	1455
45°	1287	1376	1439
50°	1237	1350	1422
55°	1182	1325	1408
60°	1127	1304	1405
65°	1055	1281	1414
70°	977	1288	1452
75°	875	1313	1534
80°	707	1391	1501
85°	533	1221	1190



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.2	3.3
10°-20°	303.3	9.5
20°-30°	456.0	14.3
30°-40°	543.2	17.0
40°-50°	555.9	17.4
50°-60°	500.5	15.7
60°-70°	393.0	12.3
70°-80°	255.1	8.0
80°-90°	78.9	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°	865.5	27.1
0°-40°	1408.6	44.1
0°-60°	2465.0	77.2
0°-90°	3192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1121	1121	1121	1121	1121	
5°	1116	1118	1113	1119	1120	106
15°	1068	1071	1073	1082	1084	301
25°	970	978	988	1005	1008	447
35°	838	849	869	890	896	523
45°	676	692	723	750	756	521
55°	504	526	565	594	600	452
65°	332	357	402	436	444	330
75°	168	201	252	287	295	178
85°	34	64	79	77	77	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1121.4	1121.4	1121.4	1121.4	1121.4
2.5°	1122.4	1122.4	1117.3	1122.4	1123.4
5°	1116.3	1118.3	1113.3	1119.3	1120.4
7.5°	1110.2	1110.2	1107.2	1113.3	1114.3
10°	1099.1	1100.1	1099.1	1106.2	1107.2
12.5°	1084.9	1086.9	1087.9	1095.0	1096.0
15°	1067.6	1070.7	1072.7	1081.8	1083.9
17.5°	1048.4	1051.4	1056.5	1066.6	1068.6
20°	1025.1	1029.1	1035.2	1048.4	1051.4
22.5°	999.7	1003.8	1013.9	1026.1	1031.1
25°	970.3	978.4	988.5	1004.8	1007.8
27.5°	940.9	948.0	961.2	978.4	982.5
30°	906.4	917.6	933.8	951.0	955.1
32.5°	873.0	884.1	903.4	921.6	926.7
35°	838.5	848.6	868.9	890.2	896.3
37.5°	799.0	812.1	834.4	855.7	861.8
40°	757.4	773.6	799.0	821.3	828.4
42.5°	717.8	735.1	760.4	784.8	792.9
45°	676.3	692.5	722.9	750.3	756.4
47.5°	633.7	651.9	684.4	711.8	721.9
50°	591.1	610.4	644.8	673.2	679.3
52.5°	548.5	568.8	605.3	635.7	638.8
55°	503.9	526.2	564.7	594.1	600.2
57.5°	463.4	482.6	524.2	554.6	561.7
60°	418.7	440.0	484.6	513.0	522.2
62.5°	376.2	398.5	445.1	473.5	481.6
65°	331.5	356.9	402.5	436.0	444.1
67.5°	293.0	317.3	366.0	398.5	406.6
70°	248.4	275.8	327.5	360.9	369.1
72.5°	209.9	238.3	290.0	322.4	334.6
75°	168.3	200.8	252.5	286.9	295.0
77.5°	127.8	165.3	218.0	244.3	244.3
80°	91.3	130.8	179.5	191.6	193.7
82.5°	59.8	98.3	132.8	131.8	131.8
85°	34.5	63.9	79.1	77.1	77.1
87.5°	13.2	26.4	28.4	28.4	27.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)