

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: P311286

Luminaire Tested: **24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-4500K**

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: P311286
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: 24FCZ2-35HE-UNV-L82765-S-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 3214.0 lumens
Efficiency: N/A
Efficacy: 121.3 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

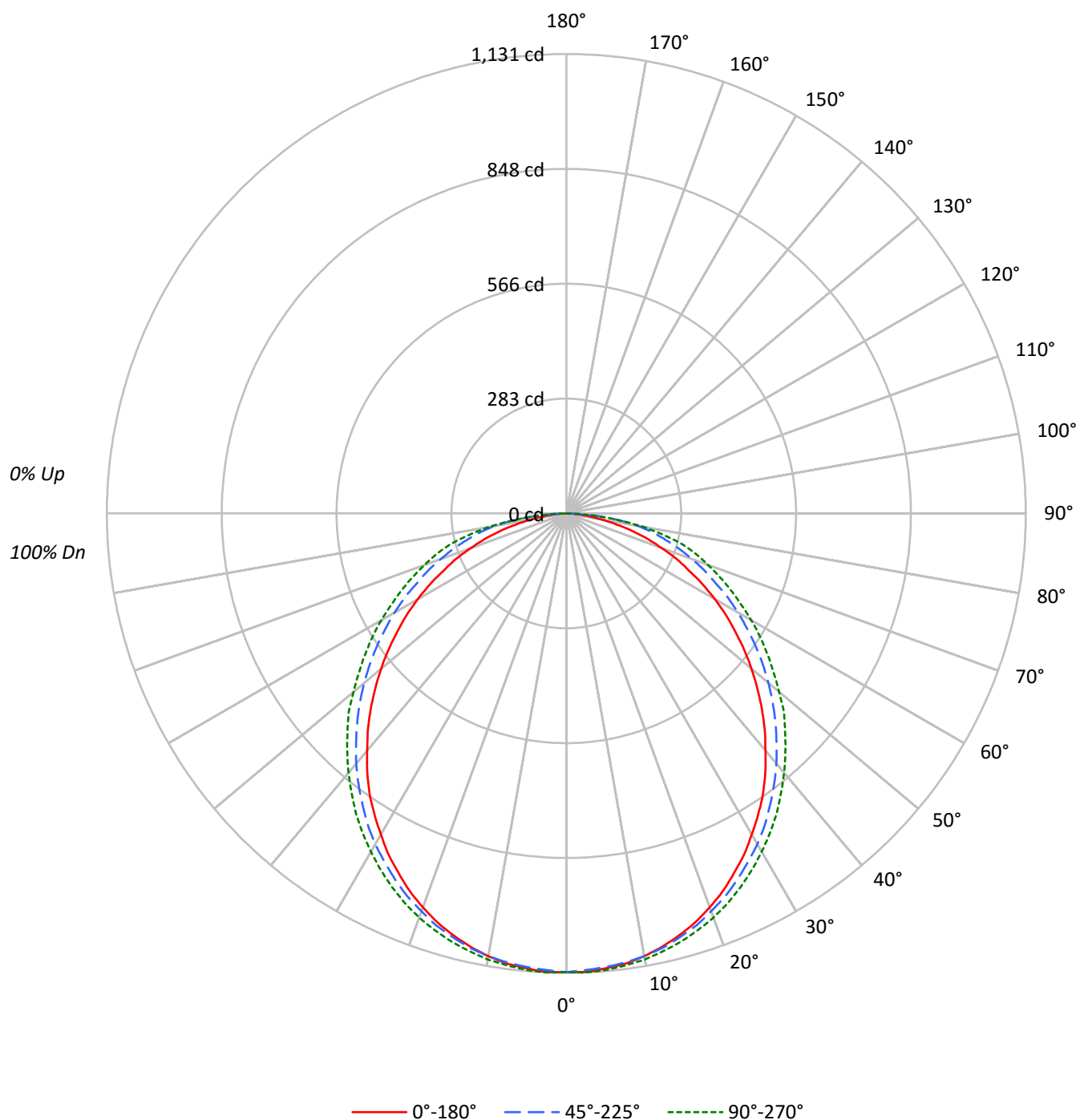
Input Watts (W): 26.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1519	1519	1519
5°	1518	1514	1524
10°	1512	1512	1523
15°	1497	1505	1520
20°	1478	1492	1516
25°	1450	1478	1507
30°	1418	1461	1494
35°	1387	1437	1482
40°	1339	1413	1465
45°	1296	1385	1449
50°	1246	1359	1432
55°	1190	1334	1418
60°	1135	1313	1415
65°	1063	1290	1423
70°	984	1297	1462
75°	881	1321	1544
80°	712	1400	1511
85°	536	1229	1198



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.9	3.3
10°-20°	305.4	9.5
20°-30°	459.1	14.3
30°-40°	546.9	17.0
40°-50°	559.7	17.4
50°-60°	503.9	15.7
60°-70°	395.7	12.3
70°-80°	256.8	8.0
80°-90°	79.4	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°	871.5	27.1
0°-40°	1418.4	44.1
0°-60°	2482.0	77.2
0°-90°	3214.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3214.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1129	1129	1129	1129	1129	
5°	1124	1126	1121	1127	1128	107
15°	1075	1078	1080	1089	1091	303
25°	977	985	995	1012	1015	450
35°	844	854	875	896	902	527
45°	681	697	728	756	762	525
55°	507	530	569	598	604	455
65°	334	359	405	439	447	332
75°	170	202	254	289	297	179
85°	35	64	80	78	78	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1129.1	1129.1	1129.1	1129.1	1129.1
2.5°	1130.1	1130.1	1125.0	1130.1	1131.1
5°	1124.0	1126.0	1120.9	1127.1	1128.1
7.5°	1117.9	1117.9	1114.8	1120.9	1122.0
10°	1106.6	1107.7	1106.6	1113.8	1114.8
12.5°	1092.3	1094.4	1095.4	1102.6	1103.6
15°	1075.0	1078.1	1080.1	1089.3	1091.3
17.5°	1055.6	1058.7	1063.8	1074.0	1076.0
20°	1032.1	1036.2	1042.3	1055.6	1058.7
22.5°	1006.6	1010.7	1020.9	1033.1	1038.2
25°	977.0	985.2	995.4	1011.7	1014.8
27.5°	947.4	954.5	967.8	985.2	989.2
30°	912.7	923.9	940.2	957.6	961.7
32.5°	879.0	890.2	909.6	928.0	933.1
35°	844.3	854.5	874.9	896.3	902.5
37.5°	804.5	817.7	840.2	861.6	867.8
40°	762.6	778.9	804.5	826.9	834.1
42.5°	722.8	740.1	765.7	790.2	798.3
45°	680.9	697.3	727.9	755.5	761.6
47.5°	638.1	656.4	689.1	716.7	726.9
50°	595.2	614.6	649.3	677.9	684.0
52.5°	552.3	572.7	609.5	640.1	643.2
55°	507.4	529.8	568.6	598.2	604.4
57.5°	466.5	485.9	527.8	558.4	565.6
60°	421.6	443.1	488.0	516.6	525.8
62.5°	378.7	401.2	448.2	476.8	484.9
65°	333.8	359.4	405.3	439.0	447.1
67.5°	295.0	319.5	368.5	401.2	409.4
70°	250.1	277.7	329.7	363.4	371.6
72.5°	211.3	239.9	292.0	324.6	336.9
75°	169.5	202.1	254.2	288.9	297.1
77.5°	128.6	166.4	219.5	246.0	246.0
80°	91.9	131.7	180.7	192.9	195.0
82.5°	60.2	99.0	133.7	132.7	132.7
85°	34.7	64.3	79.6	77.6	77.6
87.5°	13.3	26.5	28.6	28.6	27.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)