

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: P309085

Luminaire Tested: **22FCZ2-39HE-UNV-L82765-S-CP187-W2A-U-6500K**

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: P309085
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-39HE-UNV-L82765-S-CP187-W2A-U-6500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3000K 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: 3659.0 lumens
Efficiency: N/A
Efficacy: 108.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

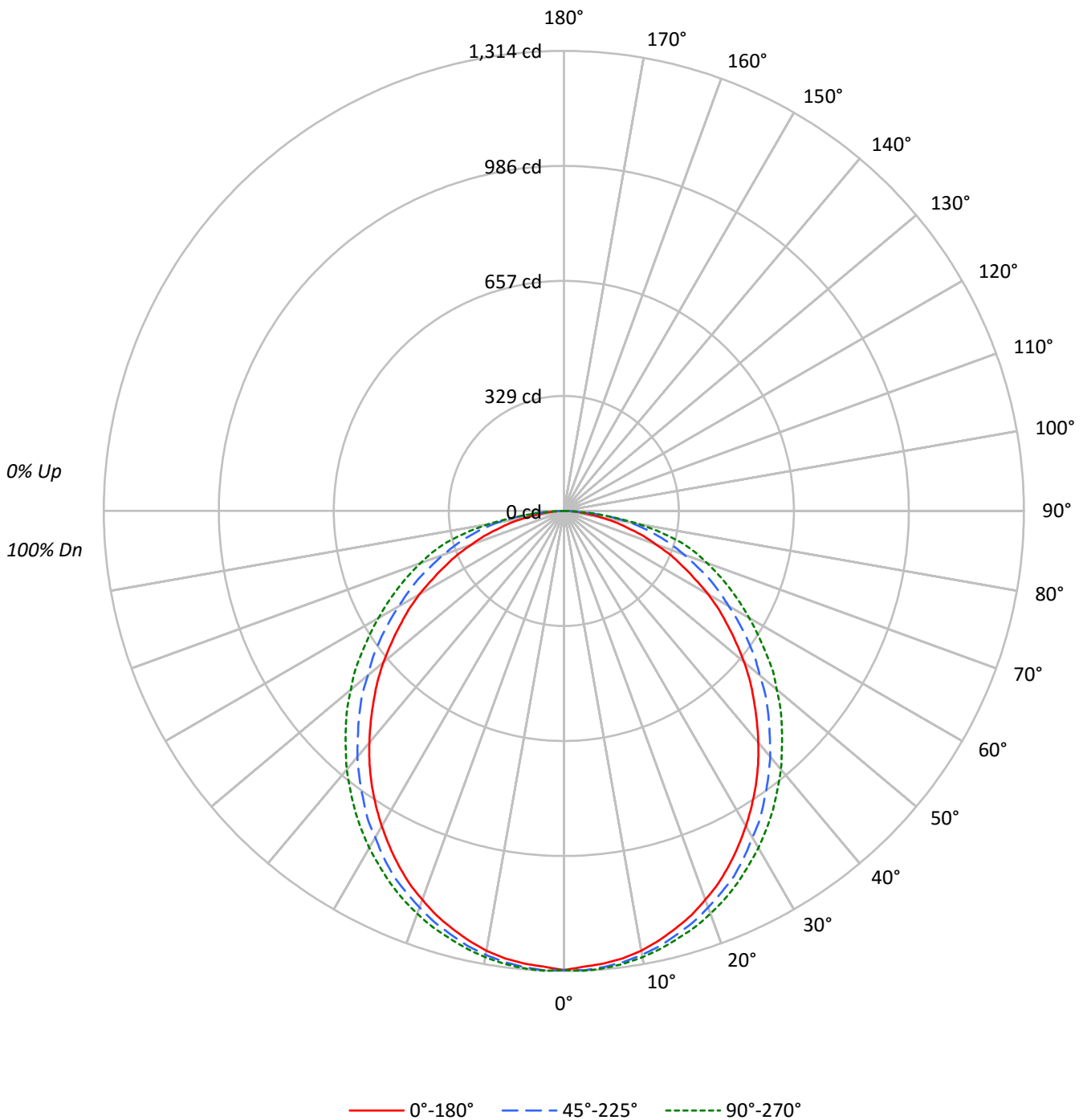
Input Watts (W): 33.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3528	3528	3528
5°	3505	3532	3542
10°	3485	3517	3536
15°	3439	3486	3519
20°	3383	3452	3505
25°	3315	3417	3483
30°	3231	3347	3453
35°	3141	3286	3421
40°	3034	3221	3388
45°	2923	3145	3352
50°	2816	3059	3324
55°	2683	3004	3300
60°	2563	2931	3289
65°	2392	2913	3326
70°	2203	2888	3425
75°	1988	2929	3604
80°	1720	3016	3386
85°	1423	2529	2529



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.0	3.4
10°-20°	352.9	9.6
20°-30°	528.0	14.4
30°-40°	625.2	17.1
40°-50°	637.2	17.4
50°-60°	571.1	15.6
60°-70°	447.1	12.2
70°-80°	288.3	7.9
80°-90°	85.2	2.3
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°	1004.8	27.5
0°-40°	1630.1	44.5
0°-60°	2838.4	77.6
0°-90°	3659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3659.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1311	1311	1311	1311	1311	
5°	1298	1301	1308	1309	1311	123
15°	1234	1241	1251	1262	1263	348
25°	1116	1127	1151	1166	1173	514
35°	956	968	1000	1031	1041	597
45°	768	785	826	869	881	593
55°	572	591	640	685	703	513
65°	376	398	458	502	522	373
75°	191	220	282	330	347	205
85°	46	63	82	82	82	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1311.1	1311.1	1311.1	1311.1	1311.1
2.5°	1302.6	1306.0	1312.8	1314.5	1314.5
5°	1297.5	1300.9	1307.7	1309.4	1311.1
7.5°	1288.9	1290.6	1299.2	1302.6	1304.3
10°	1275.3	1278.7	1287.2	1292.4	1294.1
12.5°	1256.5	1261.6	1271.9	1278.7	1280.4
15°	1234.3	1241.1	1251.4	1261.6	1263.3
17.5°	1210.4	1217.2	1230.9	1242.8	1246.3
20°	1181.4	1189.9	1205.3	1218.9	1224.1
22.5°	1152.4	1159.2	1178.0	1195.0	1200.2
25°	1116.5	1126.8	1150.7	1166.0	1172.9
27.5°	1079.0	1090.9	1114.8	1135.3	1142.1
30°	1039.7	1051.6	1077.2	1102.9	1111.4
32.5°	998.7	1012.4	1043.1	1068.7	1077.2
35°	956.0	968.0	1000.4	1031.2	1041.4
37.5°	911.6	921.9	959.4	991.9	1002.1
40°	863.8	877.5	916.8	954.3	964.6
42.5°	816.0	831.4	870.7	911.6	921.9
45°	768.2	785.3	826.3	869.0	880.9
47.5°	722.1	735.8	781.9	822.9	839.9
50°	672.6	686.3	730.7	776.8	793.9
52.5°	621.4	640.2	688.0	732.4	752.9
55°	571.9	590.7	640.2	684.6	703.4
57.5°	525.8	541.2	592.4	638.5	657.3
60°	476.3	490.0	544.6	594.1	611.2
62.5°	423.4	443.9	500.2	546.3	566.8
65°	375.6	397.8	457.5	501.9	522.4
67.5°	331.2	351.7	409.7	457.5	479.7
70°	280.0	307.3	367.0	414.9	435.3
72.5°	239.0	262.9	324.4	372.2	394.4
75°	191.2	220.2	281.7	329.5	346.6
77.5°	151.9	181.0	239.0	276.6	285.1
80°	111.0	140.0	194.6	213.4	218.5
82.5°	75.1	102.4	140.0	145.1	146.8
85°	46.1	63.2	81.9	81.9	81.9
87.5°	22.2	25.6	29.0	27.3	27.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)