

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: P309083

Luminaire Tested: **22FCZ2-39HE-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: P309083
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-5500K
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: 3640.0 lumens
Efficiency: N/A
Efficacy: 109.3 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

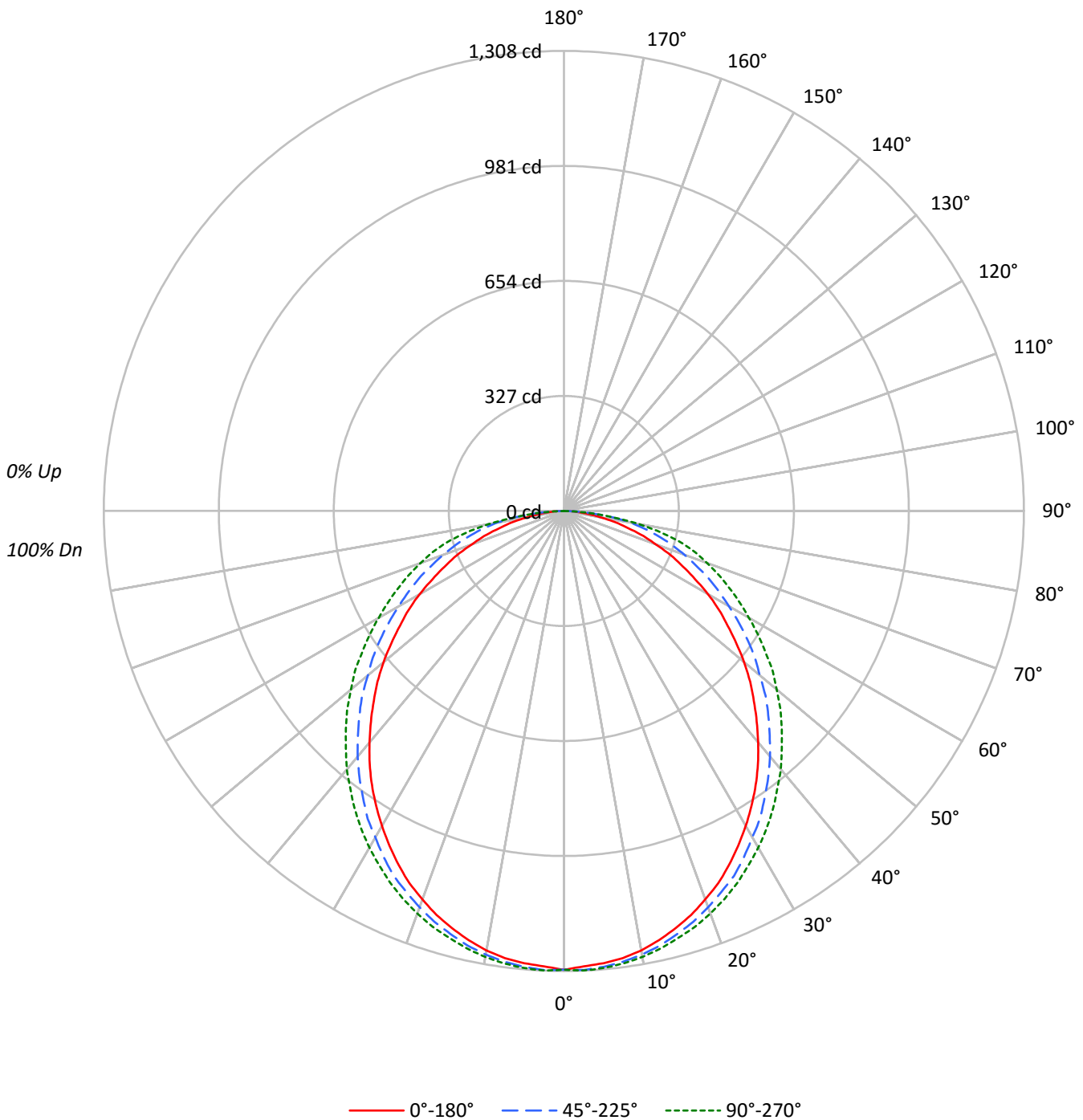
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3510	3510	3510
5°	3487	3514	3523
10°	3467	3499	3518
15°	3421	3468	3501
20°	3366	3434	3487
25°	3298	3399	3464
30°	3214	3330	3435
35°	3124	3269	3403
40°	3019	3204	3371
45°	2909	3128	3335
50°	2801	3043	3306
55°	2669	2988	3283
60°	2550	2916	3272
65°	2379	2898	3309
70°	2191	2873	3408
75°	1978	2913	3585
80°	1711	3000	3369
85°	1417	2516	2516



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.3	3.4
10°-20°	351.0	9.6
20°-30°	525.2	14.4
30°-40°	622.0	17.1
40°-50°	633.9	17.4
50°-60°	568.1	15.6
60°-70°	444.8	12.2
70°-80°	286.8	7.9
80°-90°	84.7	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°	999.6	27.5
0°-40°	1621.6	44.5
0°-60°	2823.6	77.6
0°-90°	3640.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3640.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1291	1294	1301	1303	1304	123
15°	1228	1235	1245	1255	1257	346
25°	1111	1121	1145	1160	1167	511
35°	951	963	995	1026	1036	594
45°	764	781	822	864	876	590
55°	569	588	637	681	700	510
65°	374	396	455	499	520	371
75°	190	219	280	328	345	204
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°	1304.3	1304.3	1304.3	1304.3	1304.3
2.5°	1295.8	1299.2	1306.0	1307.7	1307.7
5°	1290.7	1294.1	1300.9	1302.6	1304.3
7.5°	1282.2	1283.9	1292.4	1295.8	1297.5
10°	1268.7	1272.1	1280.5	1285.6	1287.3
12.5°	1250.0	1255.1	1265.3	1272.1	1273.8
15°	1227.9	1234.7	1244.9	1255.1	1256.8
17.5°	1204.1	1210.9	1224.5	1236.4	1239.8
20°	1175.3	1183.7	1199.0	1212.6	1217.7
22.5°	1146.4	1153.2	1171.9	1188.8	1193.9
25°	1110.7	1120.9	1144.7	1160.0	1166.8
27.5°	1073.4	1085.2	1109.0	1129.4	1136.2
30°	1034.3	1046.2	1071.7	1097.1	1105.6
32.5°	993.5	1007.1	1037.7	1063.2	1071.7
35°	951.1	963.0	995.2	1025.8	1036.0
37.5°	906.9	917.1	954.5	986.7	996.9
40°	859.4	872.9	912.0	949.4	959.6
42.5°	811.8	827.1	866.2	906.9	917.1
45°	764.3	781.2	822.0	864.5	876.3
47.5°	718.4	732.0	777.8	818.6	835.6
50°	669.1	682.7	726.9	772.7	789.7
52.5°	618.2	636.9	684.4	728.6	749.0
55°	568.9	587.6	636.9	681.0	699.7
57.5°	523.1	538.4	589.3	635.2	653.9
60°	473.8	487.4	541.8	591.0	608.0
62.5°	421.2	441.6	497.6	543.5	563.8
65°	373.6	395.7	455.2	499.3	519.7
67.5°	329.5	349.9	407.6	455.2	477.2
70°	278.5	305.7	365.1	412.7	433.1
72.5°	237.8	261.5	322.7	370.2	392.3
75°	190.2	219.1	280.2	327.8	344.8
77.5°	151.2	180.0	237.8	275.1	283.6
80°	110.4	139.3	193.6	212.3	217.4
82.5°	74.7	101.9	139.3	144.4	146.1
85°	45.9	62.8	81.5	81.5	81.5
87.5°	22.1	25.5	28.9	27.2	27.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)