

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: P309084

Luminaire Tested: **22FCZ2-39HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P309084
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-5700K
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: 3650.0 lumens
Efficiency: N/A
Efficacy: 109.6 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

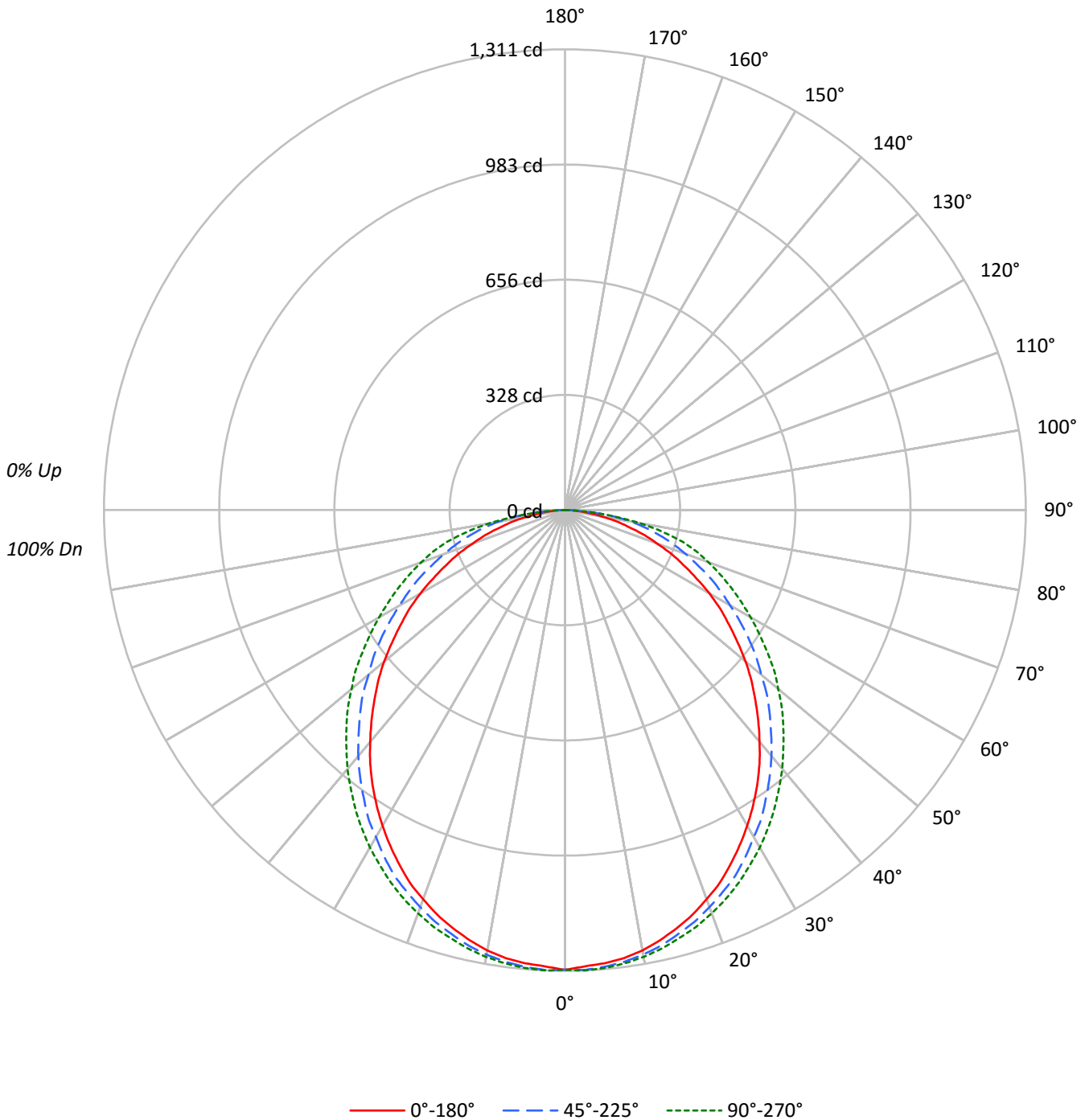
Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3520	3520	3520
5°	3496	3524	3533
10°	3476	3509	3527
15°	3430	3478	3511
20°	3375	3443	3497
25°	3307	3408	3474
30°	3223	3339	3445
35°	3133	3279	3413
40°	3027	3212	3380
45°	2917	3137	3344
50°	2809	3051	3315
55°	2677	2996	3292
60°	2557	2924	3281
65°	2386	2906	3318
70°	2198	2880	3417
75°	1983	2922	3594
80°	1715	3008	3378
85°	1420	2523	2523



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.7	3.4
10°-20°	352.0	9.6
20°-30°	526.7	14.4
30°-40°	623.7	17.1
40°-50°	635.6	17.4
50°-60°	569.7	15.6
60°-70°	446.0	12.2
70°-80°	287.6	7.9
80°-90°	85.0	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°	1002.3	27.5
0°-40°	1626.1	44.5
0°-60°	2831.4	77.6
0°-90°	3650.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3650.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1308	1308	1308	1308	1308	
5°	1294	1298	1304	1306	1308	123
15°	1231	1238	1248	1258	1260	347
25°	1114	1124	1148	1163	1170	513
35°	954	966	998	1029	1039	596
45°	766	783	824	867	879	592
55°	570	589	639	683	702	512
65°	375	397	456	501	521	372
75°	191	220	281	329	346	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°	1307.9	1307.9	1307.9	1307.9	1307.9
2.5°	1299.4	1302.8	1309.6	1311.3	1311.3
5°	1294.3	1297.7	1304.5	1306.2	1307.9
7.5°	1285.8	1287.5	1296.0	1299.4	1301.1
10°	1272.1	1275.6	1284.1	1289.2	1290.9
12.5°	1253.4	1258.5	1268.7	1275.6	1277.3
15°	1231.3	1238.1	1248.3	1258.5	1260.2
17.5°	1207.4	1214.2	1227.9	1239.8	1243.2
20°	1178.5	1187.0	1202.3	1215.9	1221.1
22.5°	1149.5	1156.3	1175.1	1192.1	1197.2
25°	1113.8	1124.0	1147.8	1163.2	1170.0
27.5°	1076.3	1088.2	1112.1	1132.5	1139.3
30°	1037.1	1049.1	1074.6	1100.1	1108.7
32.5°	996.3	1009.9	1040.5	1066.1	1074.6
35°	953.7	965.6	998.0	1028.6	1038.8
37.5°	909.4	919.6	957.1	989.4	999.7
40°	861.7	875.3	914.5	952.0	962.2
42.5°	814.0	829.4	868.5	909.4	919.6
45°	766.4	783.4	824.3	866.8	878.8
47.5°	720.4	734.0	780.0	820.8	837.9
50°	671.0	684.6	728.9	774.9	791.9
52.5°	619.9	638.6	686.3	730.6	751.0
55°	570.5	589.2	638.6	682.9	701.6
57.5°	524.5	539.9	590.9	636.9	655.7
60°	475.1	488.8	543.3	592.6	609.7
62.5°	422.3	442.8	499.0	545.0	565.4
65°	374.7	396.8	456.4	500.7	521.1
67.5°	330.4	350.8	408.7	456.4	478.5
70°	279.3	306.5	366.1	413.8	434.3
72.5°	238.4	262.3	323.6	371.3	393.4
75°	190.7	219.7	281.0	328.7	345.7
77.5°	151.6	180.5	238.4	275.9	284.4
80°	110.7	139.6	194.1	212.9	218.0
82.5°	74.9	102.2	139.6	144.8	146.5
85°	46.0	63.0	81.7	81.7	81.7
87.5°	22.1	25.5	29.0	27.2	27.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)