

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: P308810

Luminaire Tested: **22FCZ2-39HE-UNV-L82765-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: P308810
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-33)
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-CP187-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, RIBBED 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: 3313.0 lumens
Efficiency: N/A
Efficacy: 101.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.37
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

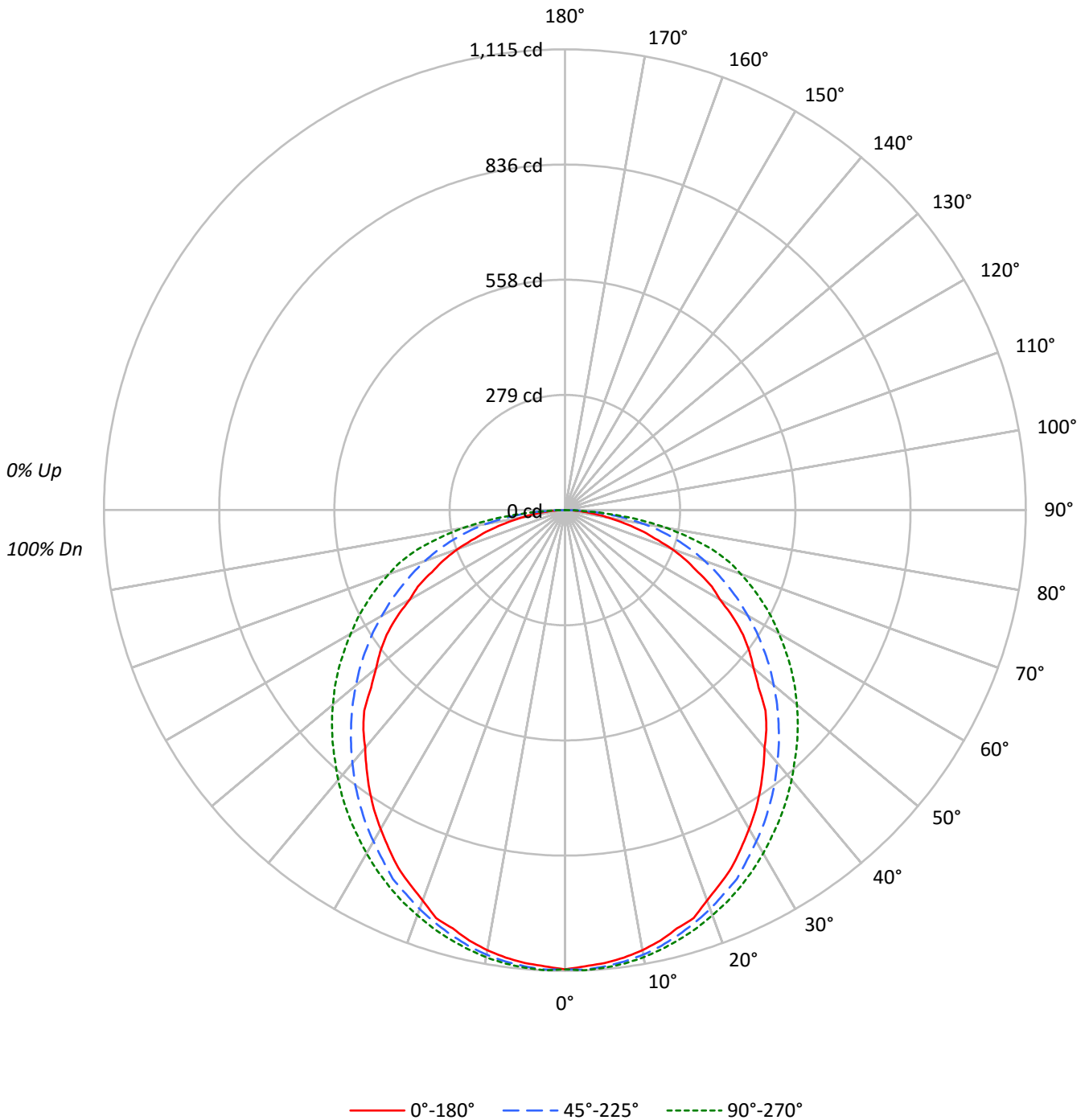
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	93	90	92	89	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	55	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	40	34	47	40	34	46	39	34	45	38	34	32
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	38	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2991	2991	2991
5°	2972	2994	3002
10°	2955	2985	3003
15°	2920	2964	2995
20°	2879	2942	2988
25°	2834	2924	2985
30°	2769	2877	2981
35°	2709	2844	2985
40°	2640	2807	2997
45°	2613	2782	3023
50°	2496	2761	3067
55°	2470	2753	3132
60°	2330	2748	3217
65°	2262	2767	3362
70°	2171	2832	3568
75°	1979	2918	3842
80°	1695	3022	3882
85°	1371	2890	3328



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.2	3.2
10°-20°	300.0	9.1
20°-30°	451.6	13.6
30°-40°	542.0	16.4
40°-50°	566.5	17.1
50°-60°	527.9	15.9
60°-70°	433.0	13.1
70°-80°	291.8	8.8
80°-90°	95.0	2.9
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°	856.8	25.9
0°-40°	1398.8	42.2
0°-60°	2493.2	75.3
0°-90°	3313.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3313.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1112	1112	1112	1112	1112	
5°	1100	1104	1108	1110	1112	104
15°	1048	1054	1064	1074	1075	296
25°	955	961	985	999	1005	439
35°	824	836	866	896	909	515
45°	687	691	731	775	794	524
55°	526	536	587	642	668	466
65°	355	371	434	498	528	353
75°	190	211	281	344	370	200
85°	44	63	94	109	108	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1111.5	1111.5	1111.5	1111.5	1111.5
2.5°	1105.2	1108.4	1113.1	1114.7	1114.7
5°	1100.4	1103.6	1108.4	1110.0	1111.5
7.5°	1092.5	1095.7	1102.0	1105.2	1106.8
10°	1081.4	1084.6	1092.5	1097.3	1098.9
12.5°	1067.1	1070.3	1079.8	1086.2	1087.8
15°	1048.1	1054.5	1064.0	1073.5	1075.1
17.5°	1035.4	1033.8	1046.5	1057.6	1060.8
20°	1005.3	1013.2	1027.5	1040.2	1043.4
22.5°	979.9	986.3	1005.3	1019.6	1025.9
25°	954.6	960.9	984.7	999.0	1005.3
27.5°	922.8	932.4	954.6	975.2	983.1
30°	891.1	900.6	926.0	949.8	959.3
32.5°	859.4	870.5	897.5	922.8	933.9
35°	824.5	835.6	865.8	895.9	908.6
37.5°	788.1	802.3	834.1	867.3	881.6
40°	751.6	765.9	799.2	837.2	853.1
42.5°	721.5	727.8	765.9	807.1	823.0
45°	686.6	691.3	731.0	775.4	794.4
47.5°	635.8	653.3	696.1	745.3	764.3
50°	596.2	615.2	659.6	712.0	732.6
52.5°	562.9	575.6	624.7	677.1	700.9
55°	526.4	535.9	586.7	642.2	667.6
57.5°	482.0	499.5	550.2	607.3	632.7
60°	432.9	455.1	510.6	572.4	597.8
62.5°	401.2	413.9	474.1	535.9	564.5
65°	355.2	371.0	434.5	497.9	528.0
67.5°	317.1	333.0	398.0	461.4	491.6
70°	275.9	291.8	359.9	423.4	453.5
72.5°	228.3	250.5	321.9	385.3	417.0
75°	190.3	210.9	280.7	344.1	369.5
77.5°	147.5	174.4	239.4	291.8	310.8
80°	109.4	136.4	195.0	233.1	250.5
82.5°	74.5	101.5	145.9	174.4	183.9
85°	44.4	63.4	93.6	109.4	107.8
87.5°	20.6	27.0	38.1	38.1	36.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)