

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: P308693

Luminaire Tested: **22FCZ2-29HE-UNV-L82765-CA08-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: P308693
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: 22FCZ2-29HE-UNV-L82765-CA08-W2A-U-4000K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC 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: 2563.0 lumens
Efficiency: N/A
Efficacy: 112.9 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

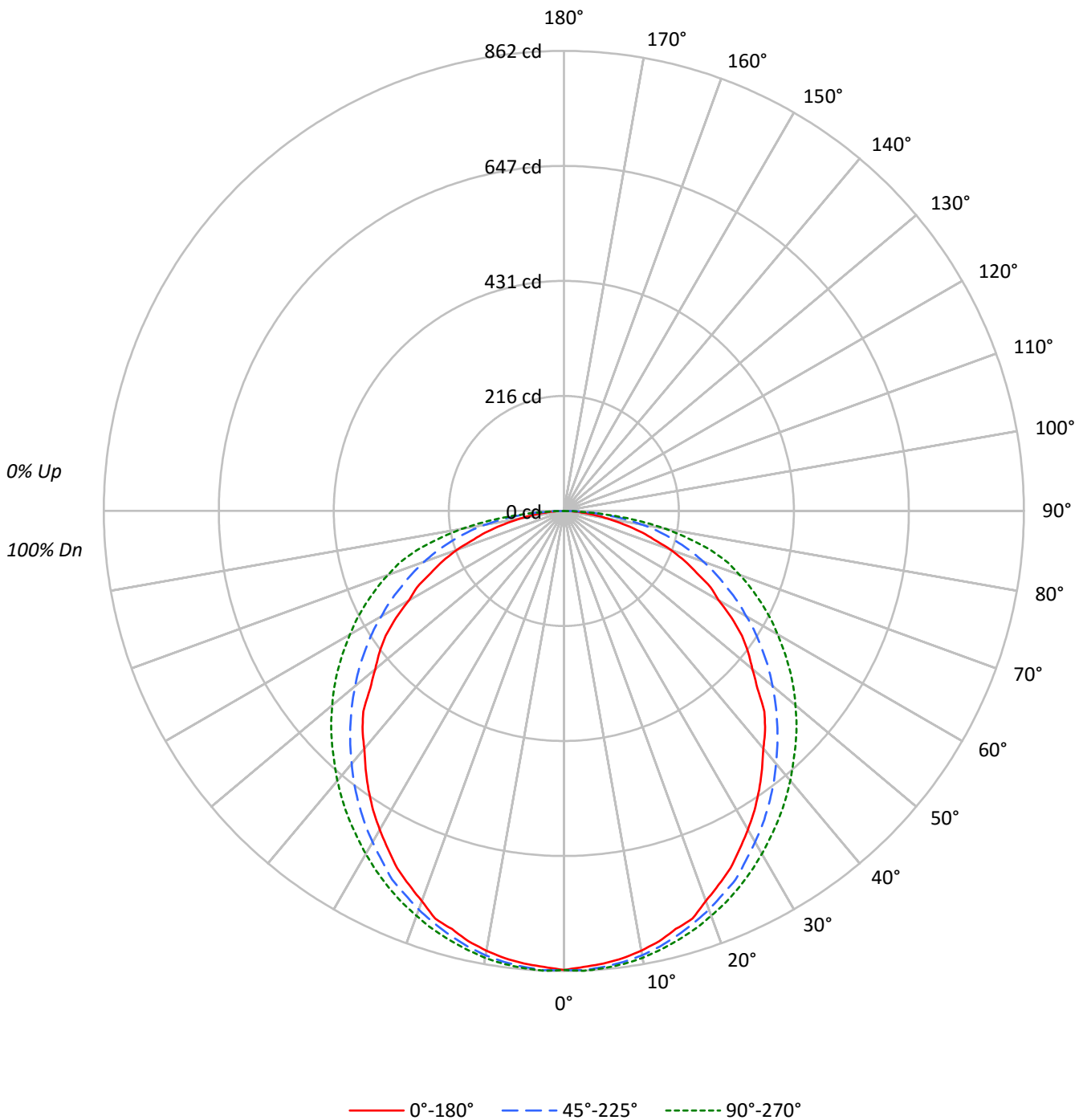
Input Watts (W): 22.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2314	2314	2314
5°	2300	2316	2323
10°	2286	2310	2323
15°	2259	2293	2317
20°	2227	2276	2312
25°	2193	2262	2309
30°	2142	2226	2306
35°	2096	2200	2309
40°	2043	2172	2318
45°	2022	2152	2339
50°	1931	2136	2372
55°	1911	2130	2423
60°	1802	2126	2489
65°	1750	2140	2601
70°	1679	2191	2760
75°	1530	2257	2972
80°	1311	2338	3003
85°	1059	2235	2575



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.4	3.2
10°-20°	232.1	9.1
20°-30°	349.4	13.6
30°-40°	419.3	16.4
40°-50°	438.2	17.1
50°-60°	408.4	15.9
60°-70°	335.0	13.1
70°-80°	225.7	8.8
80°-90°	73.5	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°	662.8	25.9
0°-40°	1082.2	42.2
0°-60°	1928.8	75.3
0°-90°	2563.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2563.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	860	860	860	860	860	
5°	851	854	858	859	860	81
15°	811	816	823	830	832	229
25°	738	743	762	773	778	339
35°	638	646	670	693	703	399
45°	531	535	566	600	615	406
55°	407	415	454	497	516	361
65°	275	287	336	385	408	273
75°	147	163	217	266	286	155
85°	34	49	72	85	83	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	859.9	859.9	859.9	859.9	859.9
2.5°	855.0	857.5	861.1	862.4	862.4
5°	851.3	853.8	857.5	858.7	859.9
7.5°	845.2	847.6	852.5	855.0	856.2
10°	836.6	839.1	845.2	848.9	850.1
12.5°	825.6	828.0	835.4	840.3	841.5
15°	810.8	815.7	823.1	830.5	831.7
17.5°	801.0	799.8	809.6	818.2	820.7
20°	777.7	783.9	794.9	804.7	807.2
22.5°	758.1	763.0	777.7	788.8	793.7
25°	738.5	743.4	761.8	772.8	777.7
27.5°	713.9	721.3	738.5	754.4	760.5
30°	689.4	696.8	716.4	734.8	742.1
32.5°	664.9	673.5	694.3	713.9	722.5
35°	637.9	646.5	669.8	693.1	702.9
37.5°	609.7	620.7	645.2	671.0	682.0
40°	581.5	592.5	618.3	647.7	660.0
42.5°	558.1	563.0	592.5	624.4	636.7
45°	531.2	534.8	565.5	599.9	614.6
47.5°	491.9	505.4	538.5	576.5	591.3
50°	461.2	476.0	510.3	550.8	566.7
52.5°	435.5	445.3	483.3	523.8	542.2
55°	407.3	414.6	453.9	496.8	516.4
57.5°	372.9	386.4	425.7	469.8	489.4
60°	334.9	352.1	395.0	442.8	462.5
62.5°	310.4	320.2	366.8	414.6	436.7
65°	274.8	287.0	336.1	385.2	408.5
67.5°	245.3	257.6	307.9	357.0	380.3
70°	213.4	225.7	278.5	327.5	350.8
72.5°	176.6	193.8	249.0	298.1	322.6
75°	147.2	163.1	217.1	266.2	285.8
77.5°	114.1	134.9	185.2	225.7	240.4
80°	84.6	105.5	150.9	180.3	193.8
82.5°	57.7	78.5	112.9	134.9	142.3
85°	34.3	49.1	72.4	84.6	83.4
87.5°	15.9	20.9	29.4	29.4	28.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)