

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: P312791

Luminaire Tested: **22FCZ2-29HE-UNV-L83050-CA08-W2A-U-3500K**

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: P312791
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-L83050-CA08-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3500K 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: 2567.0 lumens
Efficiency: N/A
Efficacy: 114.6 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

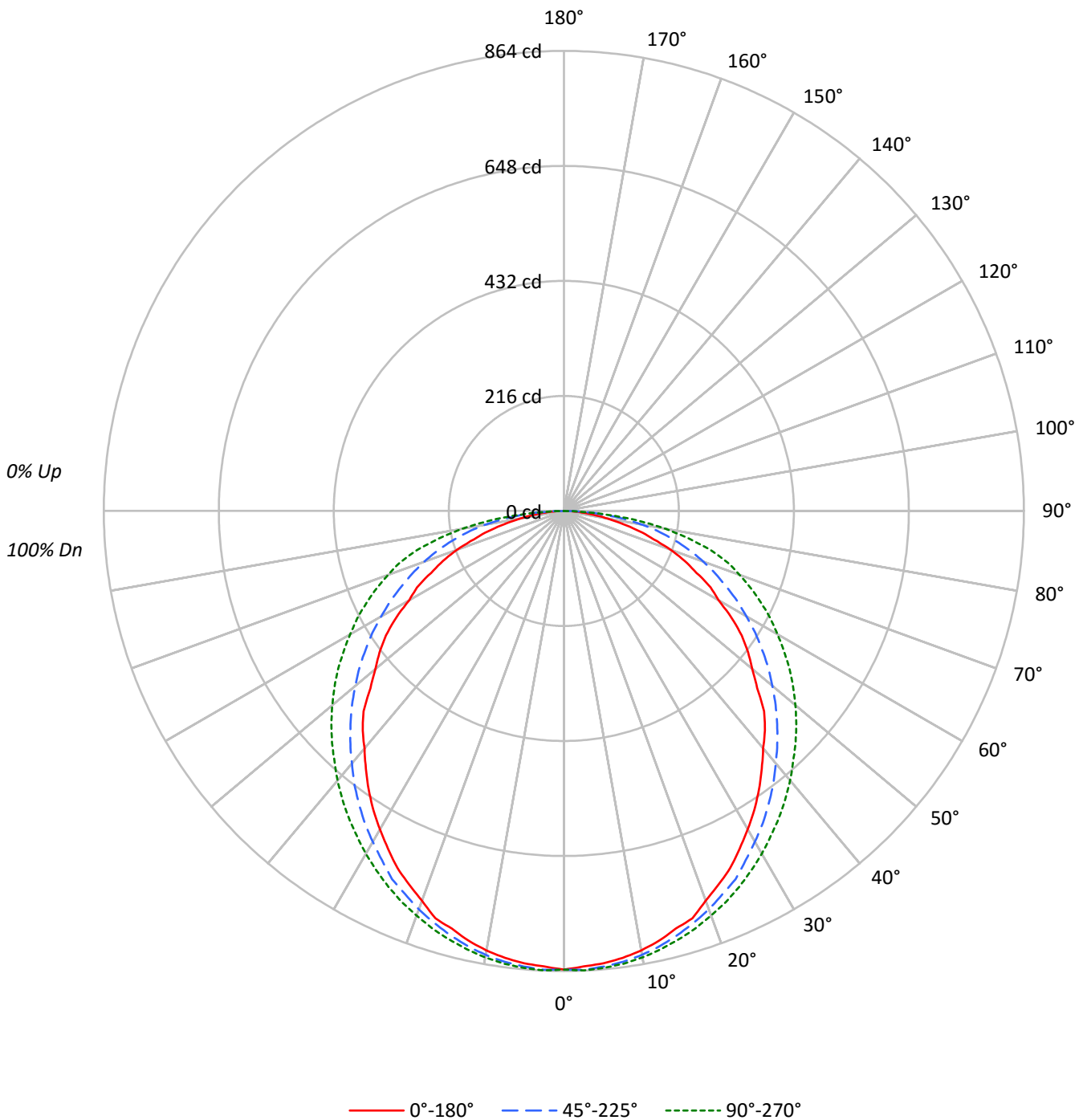
Input Watts (W): 22.4
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2318	2318	2318
5°	2303	2320	2327
10°	2290	2313	2326
15°	2262	2297	2321
20°	2231	2280	2315
25°	2196	2265	2313
30°	2146	2229	2310
35°	2099	2204	2313
40°	2046	2175	2322
45°	2025	2156	2342
50°	1934	2140	2376
55°	1914	2133	2426
60°	1805	2129	2493
65°	1752	2143	2605
70°	1682	2194	2765
75°	1533	2261	2977
80°	1314	2342	3008
85°	1062	2238	2578



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.5	3.2
10°-20°	232.5	9.1
20°-30°	349.9	13.6
30°-40°	419.9	16.4
40°-50°	438.9	17.1
50°-60°	409.1	15.9
60°-70°	335.5	13.1
70°-80°	226.1	8.8
80°-90°	73.6	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°	663.9	25.9
0°-40°	1083.8	42.2
0°-60°	1931.8	75.3
0°-90°	2567.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2567.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	861	861	861	861	861	
5°	853	855	859	860	861	81
15°	812	817	824	832	833	229
25°	740	744	763	774	779	340
35°	639	648	671	694	704	399
45°	532	536	566	601	616	406
55°	408	415	455	498	517	361
65°	275	288	337	386	409	274
75°	147	163	218	267	286	155
85°	34	49	72	85	84	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	861.3	861.3	861.3	861.3	861.3
2.5°	856.3	858.8	862.5	863.7	863.7
5°	852.7	855.1	858.8	860.0	861.3
7.5°	846.5	849.0	853.9	856.3	857.6
10°	837.9	840.4	846.5	850.2	851.4
12.5°	826.8	829.3	836.7	841.6	842.8
15°	812.1	817.0	824.4	831.8	833.0
17.5°	802.3	801.0	810.9	819.5	821.9
20°	778.9	785.1	796.1	806.0	808.4
22.5°	759.3	764.2	778.9	790.0	794.9
25°	739.6	744.5	763.0	774.0	778.9
27.5°	715.0	722.4	739.6	755.6	761.7
30°	690.5	697.8	717.5	735.9	743.3
32.5°	665.9	674.5	695.4	715.0	723.6
35°	638.9	647.5	670.8	694.2	704.0
37.5°	610.6	621.7	646.2	672.0	683.1
40°	582.4	593.4	619.2	648.7	661.0
42.5°	559.0	563.9	593.4	625.4	637.6
45°	532.0	535.7	566.4	600.8	615.5
47.5°	492.7	506.2	539.4	577.4	592.2
50°	462.0	476.7	511.1	551.6	567.6
52.5°	436.2	446.0	484.1	524.6	543.0
55°	407.9	415.3	454.6	497.6	517.2
57.5°	373.5	387.0	426.3	470.6	490.2
60°	335.4	352.6	395.6	443.5	463.2
62.5°	310.8	320.7	367.4	415.3	437.4
65°	275.2	287.5	336.6	385.8	409.1
67.5°	245.7	258.0	308.4	357.5	380.9
70°	213.8	226.1	278.9	328.0	351.4
72.5°	176.9	194.1	249.4	298.6	323.1
75°	147.4	163.4	217.5	266.6	286.3
77.5°	114.3	135.1	185.5	226.1	240.8
80°	84.8	105.7	151.1	180.6	194.1
82.5°	57.7	78.6	113.0	135.1	142.5
85°	34.4	49.1	72.5	84.8	83.5
87.5°	16.0	20.9	29.5	29.5	28.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)