

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: P310490

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-CA08-W2A-U-2700K**

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: P310490
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30HE-UNV-L82765-CA08-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 2700K 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: 2576.0 lumens
Efficiency: N/A
Efficacy: 122.1 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

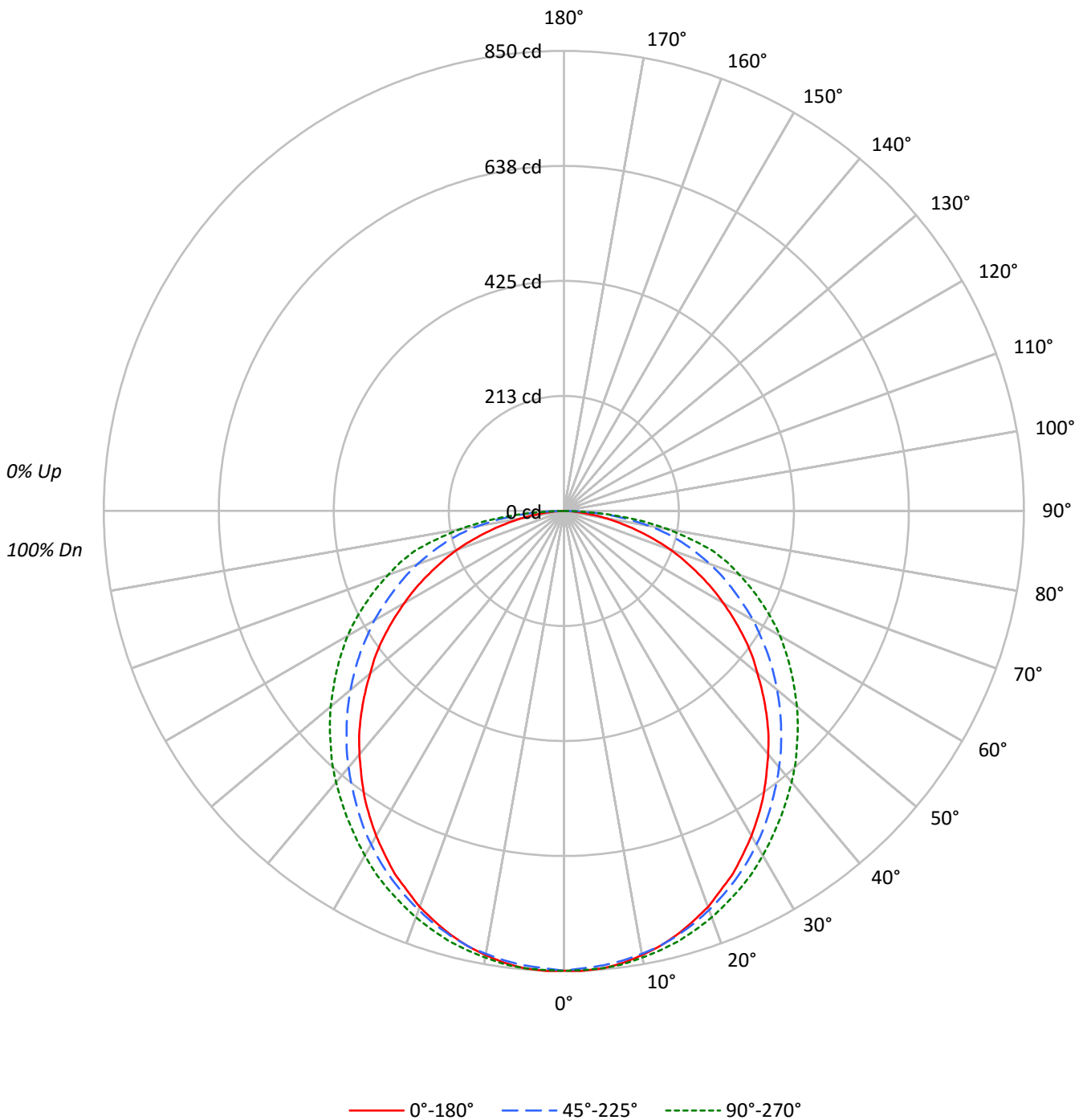
Input Watts (W): 21.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1143	1143	1143
5°	1145	1138	1145
10°	1138	1135	1144
15°	1129	1131	1145
20°	1115	1123	1144
25°	1098	1115	1143
30°	1077	1106	1142
35°	1056	1095	1143
40°	1031	1087	1150
45°	1007	1080	1160
50°	977	1077	1177
55°	952	1079	1201
60°	915	1088	1242
65°	873	1099	1287
70°	827	1133	1358
75°	738	1182	1484
80°	629	1251	1516
85°	449	1240	1451



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.4	3.1
10°-20°	229.9	8.9
20°-30°	347.2	13.5
30°-40°	418.5	16.2
40°-50°	439.3	17.1
50°-60°	411.0	16.0
60°-70°	339.4	13.2
70°-80°	231.3	9.0
80°-90°	78.9	3.1
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°	657.5	25.5
0°-40°	1076.0	41.8
0°-60°	1926.4	74.8
0°-90°	2576.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2576.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	850	850	850	850	850	
5°	848	847	843	848	848	80
15°	810	811	812	820	822	228
25°	739	743	751	766	770	340
35°	643	650	667	689	696	402
45°	529	540	568	598	609	408
55°	406	422	460	497	512	362
65°	274	297	345	389	404	272
75°	142	174	227	270	286	151
85°	29	57	80	91	94	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	849.5	849.5	849.5	849.5	849.5
2.5°	850.4	849.5	845.3	849.5	848.7
5°	847.8	847.0	842.7	847.8	847.8
7.5°	841.9	841.9	837.6	843.6	844.4
10°	833.3	833.3	830.7	837.6	837.6
12.5°	823.0	823.0	823.0	829.9	830.7
15°	810.2	811.1	811.9	820.5	822.2
17.5°	794.8	796.6	799.1	809.4	811.1
20°	778.6	780.3	784.6	796.6	799.1
22.5°	758.1	762.4	768.3	782.0	784.6
25°	739.3	742.7	751.3	765.8	770.1
27.5°	716.2	721.3	732.5	747.8	753.8
30°	693.1	698.3	711.9	729.9	735.0
32.5°	668.4	676.0	690.6	709.4	715.4
35°	642.7	649.5	666.6	688.9	695.7
37.5°	614.5	623.9	642.7	666.6	675.2
40°	587.2	597.4	618.8	644.4	654.7
42.5°	559.8	570.1	594.0	623.1	633.3
45°	529.0	540.2	567.5	598.3	609.4
47.5°	498.3	511.9	541.9	574.3	586.3
50°	466.7	482.0	514.5	548.7	562.4
52.5°	438.4	453.0	487.2	523.9	536.7
55°	406.0	422.2	459.8	497.4	511.9
57.5°	372.6	390.6	430.8	471.8	486.3
60°	340.2	359.8	404.3	445.3	461.5
62.5°	308.5	328.2	374.3	417.1	433.3
65°	274.3	297.4	345.3	388.9	404.3
67.5°	241.9	266.7	317.1	359.8	375.2
70°	210.2	234.2	288.0	329.9	345.3
72.5°	176.1	203.4	257.3	300.8	317.1
75°	141.9	174.4	227.3	270.1	285.5
77.5°	110.3	143.6	196.6	231.6	239.3
80°	81.2	115.4	161.5	186.3	195.7
82.5°	52.1	86.3	123.1	141.0	148.7
85°	29.1	57.3	80.3	90.6	94.0
87.5°	12.0	24.8	32.5	36.8	36.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)