

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: P310491

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-CA08-W2A-U-3000K**

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: P310491
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-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 2650.0 lumens
Efficiency: N/A
Efficacy: 126.2 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

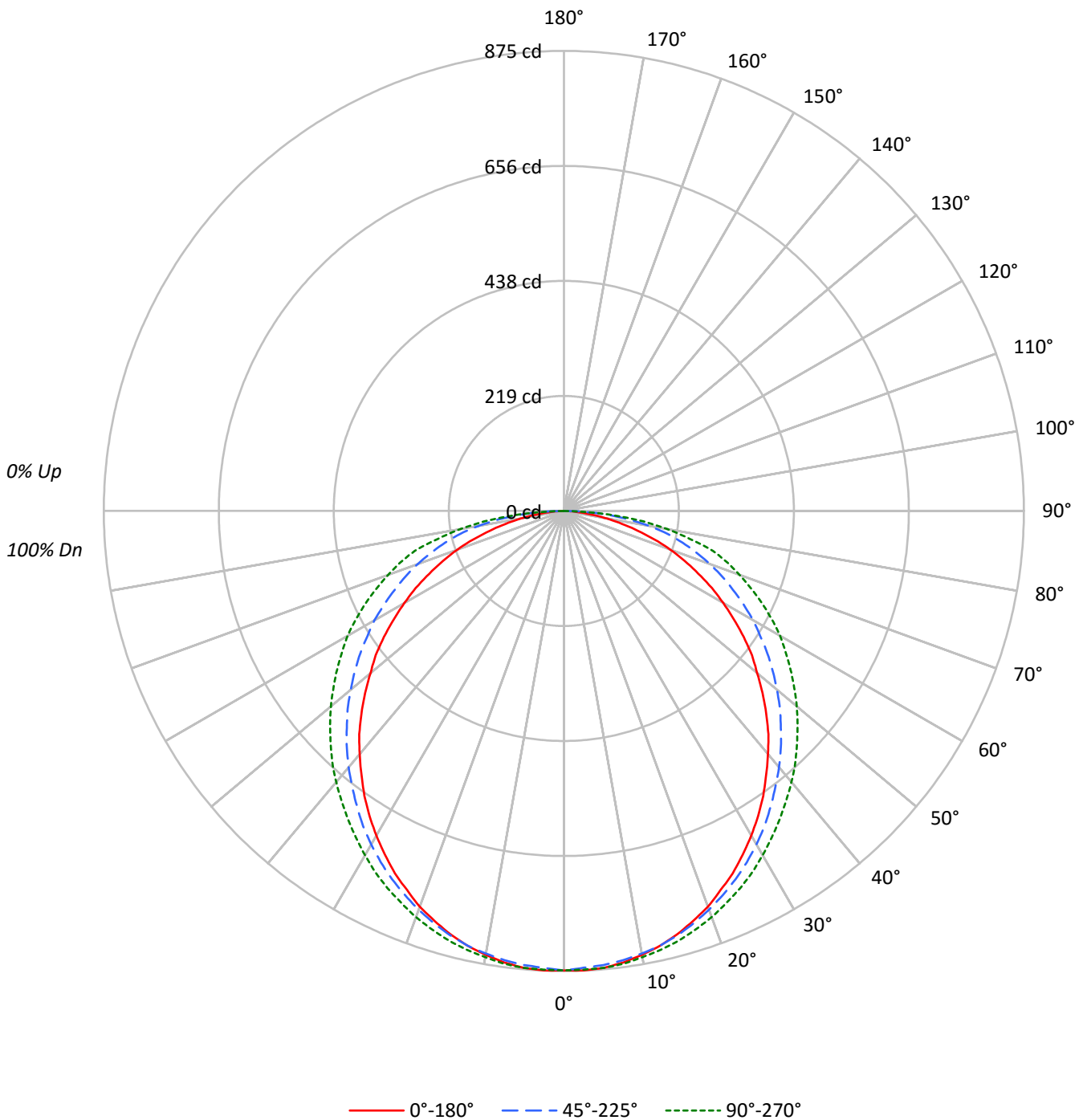
Input Watts (W): 21
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1176	1176	1176
5°	1178	1171	1178
10°	1171	1168	1177
15°	1161	1164	1178
20°	1147	1156	1177
25°	1129	1147	1176
30°	1108	1138	1175
35°	1086	1126	1176
40°	1061	1118	1183
45°	1036	1111	1193
50°	1005	1108	1211
55°	980	1110	1236
60°	942	1119	1278
65°	898	1131	1324
70°	851	1166	1397
75°	759	1216	1527
80°	647	1288	1560
85°	462	1275	1493



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.7	3.1
10°-20°	236.5	8.9
20°-30°	357.2	13.5
30°-40°	430.5	16.2
40°-50°	452.0	17.1
50°-60°	422.8	16.0
60°-70°	349.2	13.2
70°-80°	237.9	9.0
80°-90°	81.1	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°	676.4	25.5
0°-40°	1106.9	41.8
0°-60°	1981.7	74.8
0°-90°	2650.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2650.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	874	874	874	874	874	
5°	872	871	867	872	872	83
15°	834	834	835	844	846	235
25°	760	764	773	788	792	350
35°	661	668	686	709	716	413
45°	544	556	584	616	627	420
55°	418	434	473	512	527	373
65°	282	306	355	400	416	280
75°	146	179	234	278	294	156
85°	30	59	83	93	97	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	873.9	873.9	873.9	873.9	873.9
2.5°	874.8	873.9	869.6	873.9	873.1
5°	872.2	871.3	866.9	872.2	872.2
7.5°	866.0	866.0	861.6	867.8	868.7
10°	857.2	857.2	854.6	861.6	861.6
12.5°	846.7	846.7	846.7	853.7	854.6
15°	833.5	834.4	835.3	844.1	845.8
17.5°	817.7	819.4	822.1	832.6	834.4
20°	801.0	802.7	807.1	819.4	822.1
22.5°	779.9	784.3	790.4	804.5	807.1
25°	760.5	764.0	772.8	787.8	792.2
27.5°	736.8	742.1	753.5	769.3	775.5
30°	713.0	718.3	732.4	750.9	756.1
32.5°	687.6	695.5	710.4	729.8	735.9
35°	661.2	668.2	685.8	708.7	715.7
37.5°	632.2	641.8	661.2	685.8	694.6
40°	604.0	614.6	636.6	662.9	673.5
42.5°	575.9	586.4	611.1	641.0	651.5
45°	544.2	555.7	583.8	615.5	626.9
47.5°	512.6	526.7	557.4	590.8	603.1
50°	480.1	495.9	529.3	564.5	578.5
52.5°	451.0	466.0	501.2	539.0	552.2
55°	417.6	434.3	473.0	511.7	526.7
57.5°	383.3	401.8	443.1	485.3	500.3
60°	349.9	370.2	415.9	458.1	474.8
62.5°	317.4	337.6	385.1	429.1	445.8
65°	282.2	306.0	355.2	400.0	415.9
67.5°	248.8	274.3	326.2	370.2	386.0
70°	216.3	240.9	296.3	339.4	355.2
72.5°	181.1	209.3	264.6	309.5	326.2
75°	146.0	179.4	233.9	277.8	293.7
77.5°	113.4	147.7	202.2	238.3	246.2
80°	83.5	118.7	166.2	191.7	201.3
82.5°	53.6	88.8	126.6	145.1	153.0
85°	29.9	58.9	82.6	93.2	96.7
87.5°	12.3	25.5	33.4	37.8	37.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)