

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: P313141

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-HRP-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: P313141
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40HE-UNV-L83050-HRP-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 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: 2893.0 lumens
Efficiency: N/A
Efficacy: 95.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

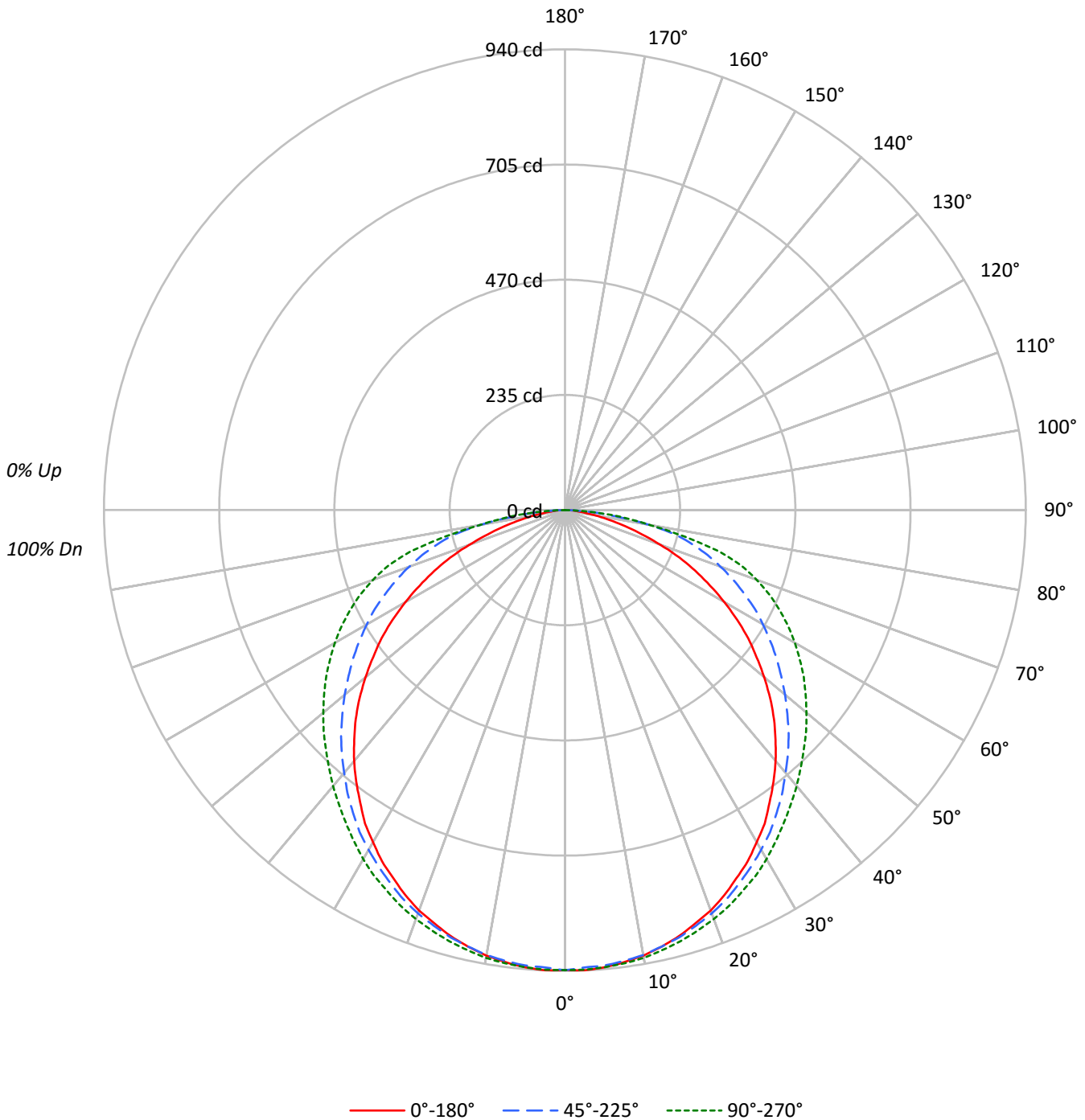
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	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	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1263	1263	1263
5°	1264	1260	1264
10°	1261	1259	1267
15°	1254	1257	1269
20°	1245	1254	1271
25°	1230	1248	1273
30°	1216	1244	1278
35°	1196	1237	1279
40°	1174	1229	1291
45°	1148	1228	1311
50°	1110	1227	1346
55°	1071	1236	1395
60°	1010	1255	1457
65°	933	1284	1538
70°	815	1329	1639
75°	661	1398	1694
80°	488	1370	1370
85°	374	1010	1141



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.9	3.1
10°-20°	255.3	8.8
20°-30°	388.7	13.4
30°-40°	472.0	16.3
40°-50°	498.7	17.2
50°-60°	470.5	16.3
60°-70°	391.2	13.5
70°-80°	257.4	8.9
80°-90°	70.2	2.4
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°	733.0	25.3
0°-40°	1205.0	41.7
0°-60°	2174.2	75.2
0°-90°	2893.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2893.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	939	939	939	939	939	
5°	936	936	933	936	936	89
15°	900	901	902	911	911	254
25°	828	833	840	855	858	382
35°	728	736	753	773	779	456
45°	603	615	646	677	689	464
55°	457	476	527	576	595	407
65°	293	327	403	463	483	290
75°	127	185	269	318	326	137
85°	24	53	65	73	74	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	938.6	938.6	938.6	938.6	938.6
2.5°	939.8	938.6	933.8	938.6	938.6
5°	936.2	936.2	932.6	936.2	936.2
7.5°	930.2	930.2	927.7	932.6	932.6
10°	922.9	922.9	921.7	927.7	927.7
12.5°	912.0	913.2	912.0	919.3	919.3
15°	899.9	901.1	902.3	910.8	910.8
17.5°	884.1	886.6	889.0	898.7	899.9
20°	869.6	870.8	875.7	886.6	887.8
22.5°	850.2	853.9	859.9	870.8	874.4
25°	828.4	833.3	840.5	855.1	857.5
27.5°	807.8	811.5	821.2	836.9	841.7
30°	782.4	788.5	800.6	816.3	822.4
32.5°	758.2	764.2	778.8	795.7	800.6
35°	727.9	736.4	753.3	772.7	778.8
37.5°	698.8	707.3	727.9	749.7	757.0
40°	668.6	678.2	700.0	725.5	735.2
42.5°	635.9	649.2	673.4	701.3	712.2
45°	603.1	615.3	645.5	677.0	689.1
47.5°	568.0	582.6	615.3	652.8	667.3
50°	530.5	548.6	586.2	627.4	643.1
52.5°	492.9	513.5	555.9	601.9	618.9
55°	456.6	476.0	526.8	576.5	594.7
57.5°	416.6	440.9	496.6	549.9	568.0
60°	375.5	402.1	466.3	522.0	541.4
62.5°	334.3	364.6	437.2	492.9	513.5
65°	293.1	327.0	403.3	462.7	483.2
67.5°	253.1	290.7	371.8	431.2	451.8
70°	207.1	254.3	337.9	396.0	416.6
72.5°	164.7	219.2	305.2	359.7	377.9
75°	127.2	185.3	268.9	318.5	325.8
77.5°	93.3	151.4	231.3	248.3	249.5
80°	63.0	121.1	176.8	174.4	176.8
82.5°	41.2	90.8	111.4	124.7	126.0
85°	24.2	53.3	65.4	72.7	73.9
87.5°	12.1	18.2	23.0	24.2	26.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)