

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: P313143

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-HRP-CA08-W2A-U-4500K**

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: P313143
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 3066.0 lumens
Efficiency: N/A
Efficacy: 96.1 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

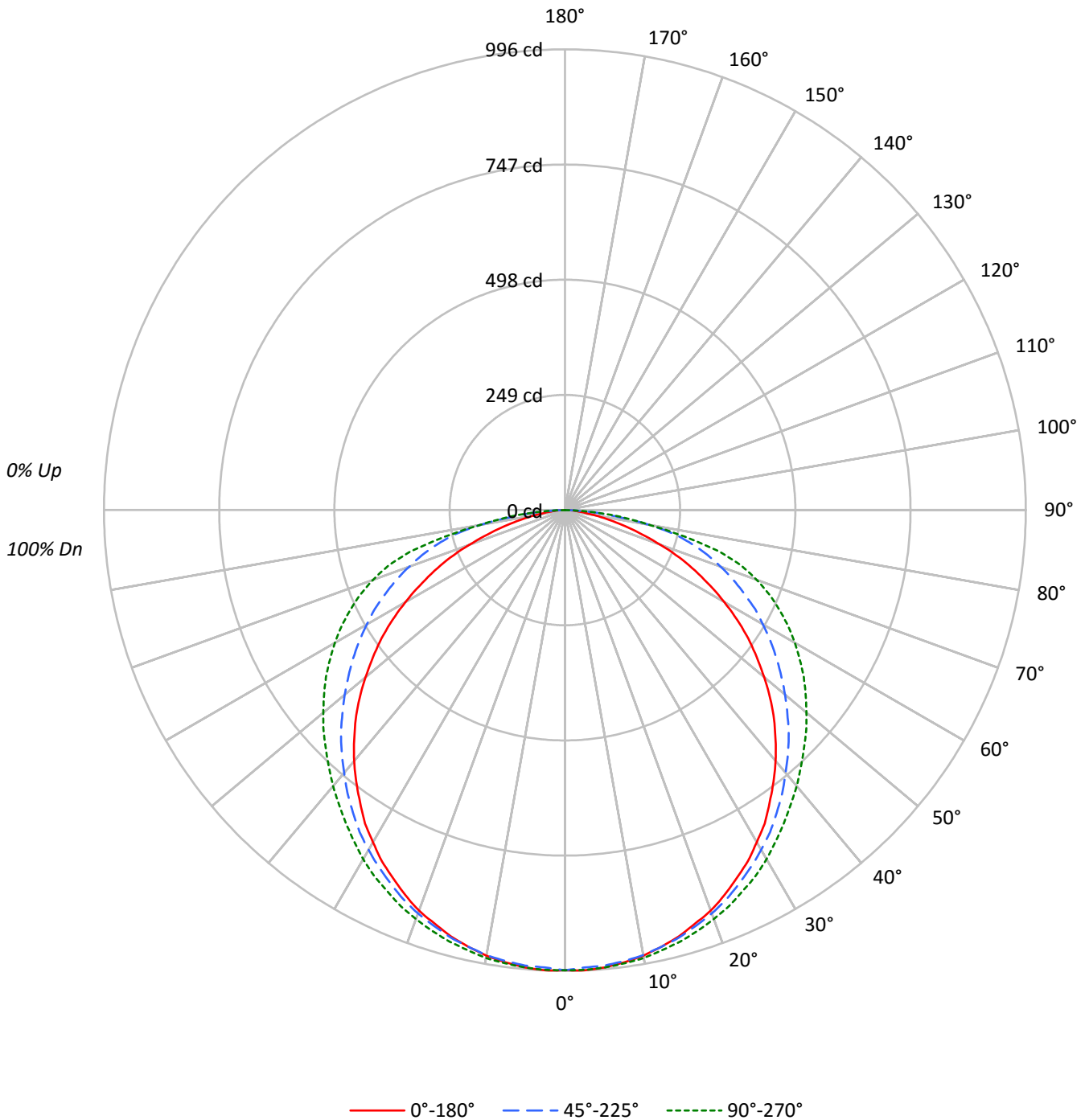
Input Watts (W): 31.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1338	1338	1338
5°	1340	1335	1340
10°	1336	1335	1343
15°	1328	1332	1344
20°	1320	1329	1347
25°	1303	1322	1349
30°	1288	1318	1354
35°	1267	1311	1356
40°	1244	1303	1368
45°	1216	1302	1390
50°	1177	1300	1427
55°	1135	1310	1478
60°	1071	1330	1544
65°	989	1361	1630
70°	864	1409	1737
75°	701	1482	1795
80°	517	1452	1452
85°	397	1070	1209



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.2	3.1
10°-20°	270.6	8.8
20°-30°	412.0	13.4
30°-40°	500.2	16.3
40°-50°	528.5	17.2
50°-60°	498.7	16.3
60°-70°	414.6	13.5
70°-80°	272.8	8.9
80°-90°	74.4	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°	776.8	25.3
0°-40°	1277.0	41.7
0°-60°	2304.2	75.2
0°-90°	3066.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3066.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	995	995	995	995	995	
5°	992	992	988	992	992	94
15°	954	955	956	965	965	269
25°	878	883	891	906	909	405
35°	771	780	798	819	825	483
45°	639	652	684	718	730	492
55°	484	504	558	611	630	431
65°	311	347	427	490	512	307
75°	135	196	285	338	345	145
85°	26	56	69	77	78	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	994.8	994.8	994.8	994.8	994.8
2.5°	996.0	994.8	989.6	994.8	994.8
5°	992.2	992.2	988.3	992.2	992.2
7.5°	985.8	985.8	983.2	988.3	988.3
10°	978.1	978.1	976.8	983.2	983.2
12.5°	966.5	967.8	966.5	974.2	974.2
15°	953.7	955.0	956.3	965.2	965.2
17.5°	937.0	939.6	942.1	952.4	953.7
20°	921.6	922.9	928.0	939.6	940.9
22.5°	901.1	904.9	911.3	922.9	926.7
25°	878.0	883.1	890.8	906.2	908.8
27.5°	856.1	860.0	870.3	886.9	892.1
30°	829.2	835.6	848.4	865.1	871.5
32.5°	803.5	809.9	825.3	843.3	848.4
35°	771.4	780.4	798.4	818.9	825.3
37.5°	740.6	749.6	771.4	794.5	802.2
40°	708.5	718.8	741.9	768.9	779.1
42.5°	673.9	688.0	713.7	743.2	754.7
45°	639.2	652.1	684.1	717.5	730.4
47.5°	602.0	617.4	652.1	691.8	707.2
50°	562.2	581.5	621.2	664.9	681.6
52.5°	522.4	544.2	589.2	637.9	655.9
55°	483.9	504.4	558.4	611.0	630.2
57.5°	441.5	467.2	526.3	582.7	602.0
60°	397.9	426.1	494.2	553.2	573.8
62.5°	354.3	386.4	463.4	522.4	544.2
65°	310.6	346.6	427.4	490.3	512.1
67.5°	268.3	308.1	394.1	457.0	478.8
70°	219.5	269.5	358.1	419.7	441.5
72.5°	174.6	232.3	323.5	381.2	400.5
75°	134.8	196.4	285.0	337.6	345.3
77.5°	98.8	160.4	245.2	263.1	264.4
80°	66.7	128.4	187.4	184.8	187.4
82.5°	43.6	96.3	118.1	132.2	133.5
85°	25.7	56.5	69.3	77.0	78.3
87.5°	12.8	19.3	24.4	25.7	28.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)