

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: P313168

Luminaire Tested: **24FCZ2-40-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: P313168
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: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 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: 3047.0 lumens
Efficiency: N/A
Efficacy: 88.8 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

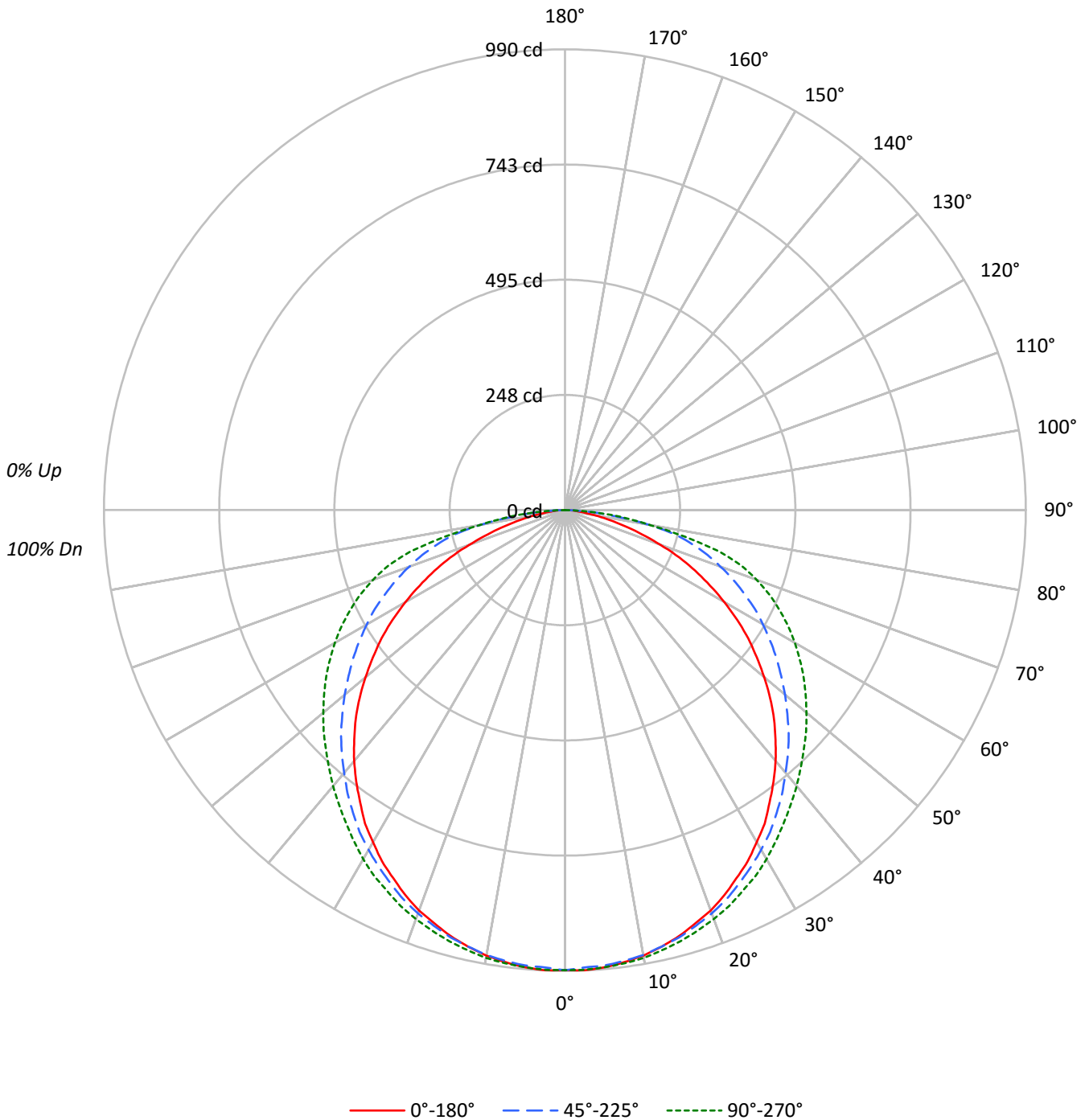
Input Watts (W): 34.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P313168

CATALOG NUMBER: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P313168

CATALOG NUMBER: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4500K

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°	1330	1330	1330
5°	1332	1327	1332
10°	1328	1326	1335
15°	1320	1324	1336
20°	1311	1321	1339
25°	1295	1314	1341
30°	1280	1310	1346
35°	1259	1303	1347
40°	1237	1295	1360
45°	1209	1294	1381
50°	1169	1292	1418
55°	1128	1302	1469
60°	1064	1322	1534
65°	983	1352	1621
70°	858	1400	1726
75°	696	1472	1784
80°	514	1443	1443
85°	394	1064	1201



TEST NUMBER: P313168

CATALOG NUMBER: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	93.7	3.1
10°-20°	268.9	8.8
20°-30°	409.4	13.4
30°-40°	497.1	16.3
40°-50°	525.2	17.2
50°-60°	495.6	16.3
60°-70°	412.1	13.5
70°-80°	271.1	8.9
80°-90°	73.9	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°	772.0	25.3
0°-40°	1269.1	41.7
0°-60°	2289.9	75.2
0°-90°	3047.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3047.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	989	989	989	989	989	
5°	986	986	982	986	986	94
15°	948	949	950	959	959	267
25°	872	878	885	901	903	402
35°	767	776	793	814	820	480
45°	635	648	680	713	726	489
55°	481	501	555	607	626	428
65°	309	344	425	487	509	305
75°	134	195	283	336	343	144
85°	26	56	69	76	78	31
90°	0	0	0	0	0	



TEST NUMBER: P313168

CATALOG NUMBER: 24FCZ2-40-UNV-L83050-HRP-CA08-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	988.6	988.6	988.6	988.6	988.6
2.5°	989.9	988.6	983.5	988.6	988.6
5°	986.1	986.1	982.2	986.1	986.1
7.5°	979.7	979.7	977.1	982.2	982.2
10°	972.0	972.0	970.7	977.1	977.1
12.5°	960.5	961.8	960.5	968.2	968.2
15°	947.8	949.1	950.3	959.3	959.3
17.5°	931.2	933.8	936.3	946.5	947.8
20°	915.9	917.2	922.3	933.8	935.0
22.5°	895.5	899.3	905.7	917.2	921.0
25°	872.5	877.6	885.3	900.6	903.1
27.5°	850.8	854.7	864.9	881.4	886.6
30°	824.0	830.4	843.2	859.8	866.1
32.5°	798.5	804.9	820.2	838.1	843.2
35°	766.6	775.6	793.4	813.8	820.2
37.5°	736.0	745.0	766.6	789.6	797.3
40°	704.1	714.3	737.3	764.1	774.3
42.5°	669.7	683.7	709.2	738.6	750.1
45°	635.3	648.0	679.9	713.1	725.8
47.5°	598.3	613.6	648.0	687.6	702.9
50°	558.7	577.9	617.4	660.8	677.4
52.5°	519.2	540.9	585.5	634.0	651.8
55°	480.9	501.3	554.9	607.2	626.3
57.5°	438.8	464.3	523.0	579.1	598.3
60°	395.4	423.5	491.1	549.8	570.2
62.5°	352.1	384.0	460.5	519.2	540.9
65°	308.7	344.4	424.8	487.3	509.0
67.5°	266.6	306.1	391.6	454.1	475.8
70°	218.1	267.9	355.9	417.1	438.8
72.5°	173.5	230.9	321.5	378.9	398.0
75°	133.9	195.2	283.2	335.5	343.1
77.5°	98.2	159.5	243.6	261.5	262.8
80°	66.3	127.6	186.2	183.7	186.2
82.5°	43.4	95.7	117.4	131.4	132.7
85°	25.5	56.1	68.9	76.5	77.8
87.5°	12.8	19.1	24.2	25.5	28.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)