

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: P310310

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-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: P310310
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 3404.0 lumens
Efficiency: N/A
Efficacy: 71.5 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

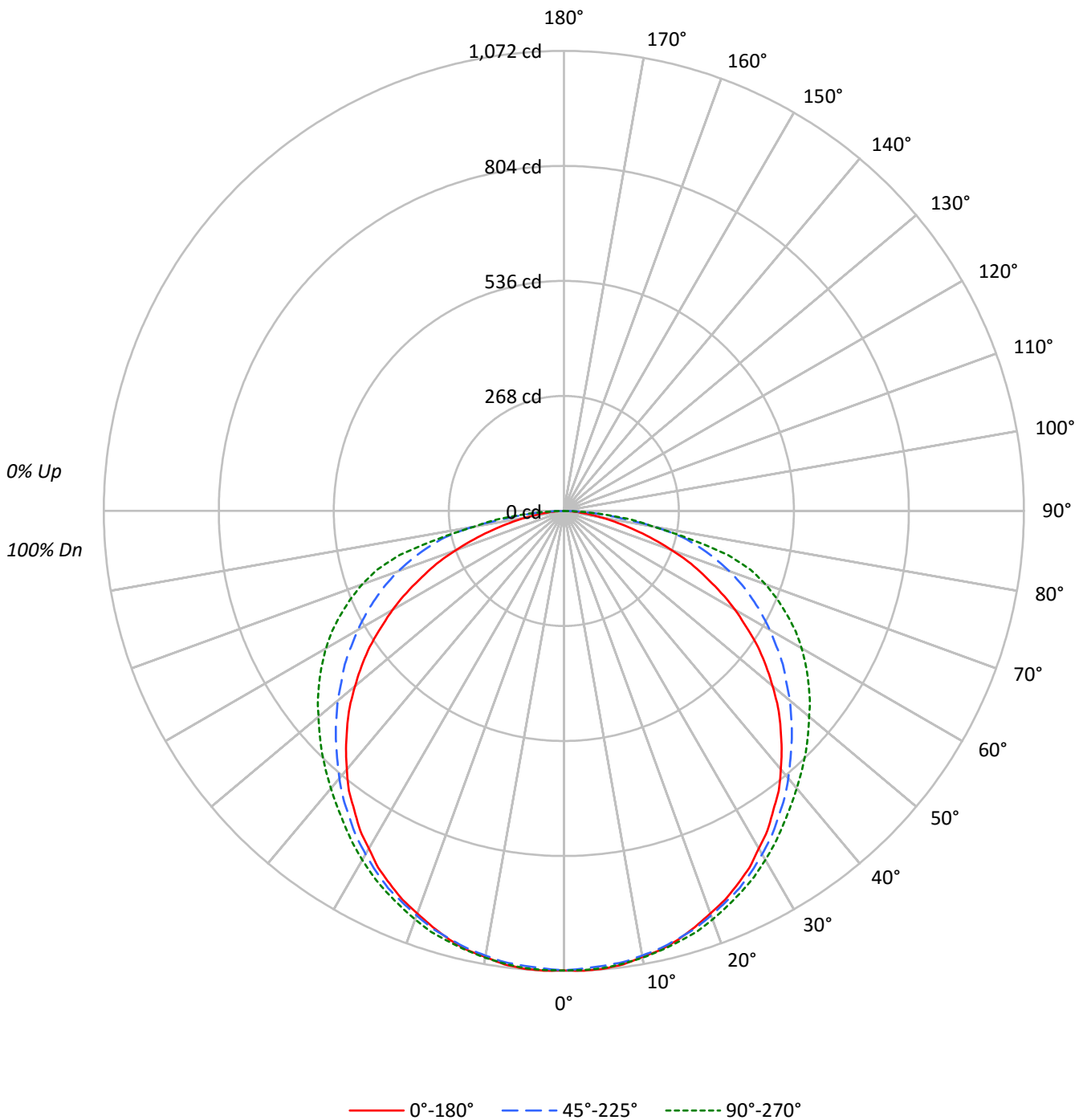
Input Watts (W): 47.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310310

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P310310

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-2700K

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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1440	1440	1440
5°	1446	1437	1444
10°	1442	1437	1444
15°	1439	1437	1446
20°	1429	1436	1451
25°	1424	1439	1454
30°	1411	1435	1459
35°	1398	1431	1464
40°	1382	1429	1483
45°	1359	1430	1516
50°	1329	1438	1562
55°	1295	1461	1632
60°	1240	1490	1722
65°	1161	1543	1828
70°	1056	1614	1966
75°	895	1703	2054
80°	707	1714	1661
85°	522	1303	1460



TEST NUMBER: P310310

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.5	3.0
10°-20°	292.2	8.6
20°-30°	446.9	13.1
30°-40°	546.3	16.0
40°-50°	582.3	17.1
50°-60°	556.7	16.4
60°-70°	471.6	13.9
70°-80°	317.0	9.3
80°-90°	89.4	2.6
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°	840.7	24.7
0°-40°	1387.0	40.7
0°-60°	2526.0	74.2
0°-90°	3404.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3404.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1070	1070	1070	1070	1070	
5°	1070	1069	1064	1069	1069	102
15°	1033	1033	1032	1040	1038	291
25°	959	962	969	978	979	442
35°	851	858	871	888	892	533
45°	714	726	751	783	797	551
55°	552	572	623	672	696	492
65°	365	402	485	549	574	362
75°	172	235	328	383	395	184
85°	34	69	84	91	95	42
90°	0	0	0	0	0	



TEST NUMBER: P310310

CATALOG NUMBER: 24FCZ2-60HE-UNV-L82765-RDP-CA08-W2A-U-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1070.5	1070.5	1070.5	1070.5	1070.5
2.5°	1072.1	1072.1	1067.1	1070.5	1070.5
5°	1070.5	1068.8	1063.7	1068.8	1068.8
7.5°	1065.4	1063.7	1060.3	1065.4	1063.7
10°	1055.3	1055.3	1051.9	1057.0	1057.0
12.5°	1046.8	1045.1	1043.4	1050.2	1048.5
15°	1033.3	1033.3	1031.6	1040.1	1038.4
17.5°	1016.4	1018.1	1019.8	1026.6	1028.3
20°	997.9	1001.2	1002.9	1013.1	1013.1
22.5°	981.0	982.7	986.0	996.2	996.2
25°	959.0	962.4	969.2	977.6	979.3
27.5°	937.1	938.8	947.2	959.0	960.7
30°	908.4	913.4	923.6	937.1	938.8
32.5°	883.0	888.1	899.9	913.4	916.8
35°	851.0	857.7	871.2	888.1	891.5
37.5°	822.3	827.3	844.2	862.8	867.8
40°	786.8	796.9	813.8	835.8	844.2
42.5°	751.3	761.5	781.7	810.4	820.6
45°	714.2	726.0	751.3	783.4	796.9
47.5°	677.1	690.6	719.3	756.4	771.6
50°	634.8	651.7	687.2	729.4	746.3
52.5°	594.3	614.6	653.4	700.7	722.6
55°	552.1	572.4	623.0	672.0	695.6
57.5°	504.8	531.9	587.6	643.3	668.6
60°	460.9	486.3	553.8	614.6	639.9
62.5°	413.7	447.4	520.0	584.2	609.5
65°	364.7	401.8	484.6	548.7	574.1
67.5°	320.8	361.3	449.1	513.3	538.6
70°	268.5	319.1	410.3	474.4	499.8
72.5°	219.5	275.2	369.8	432.2	455.9
75°	172.2	234.7	327.6	383.3	395.1
77.5°	128.3	194.2	283.7	307.3	298.9
80°	91.2	155.3	221.2	209.4	214.4
82.5°	59.1	118.2	136.8	155.3	160.4
85°	33.8	69.2	84.4	91.2	94.6
87.5°	15.2	25.3	33.8	33.8	32.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)