

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: P309368

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-CA08-W2A-U-4000K**

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: P309368
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-L82765-HRP-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 4000K 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: 2803.0 lumens
Efficiency: N/A
Efficacy: 84.7 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

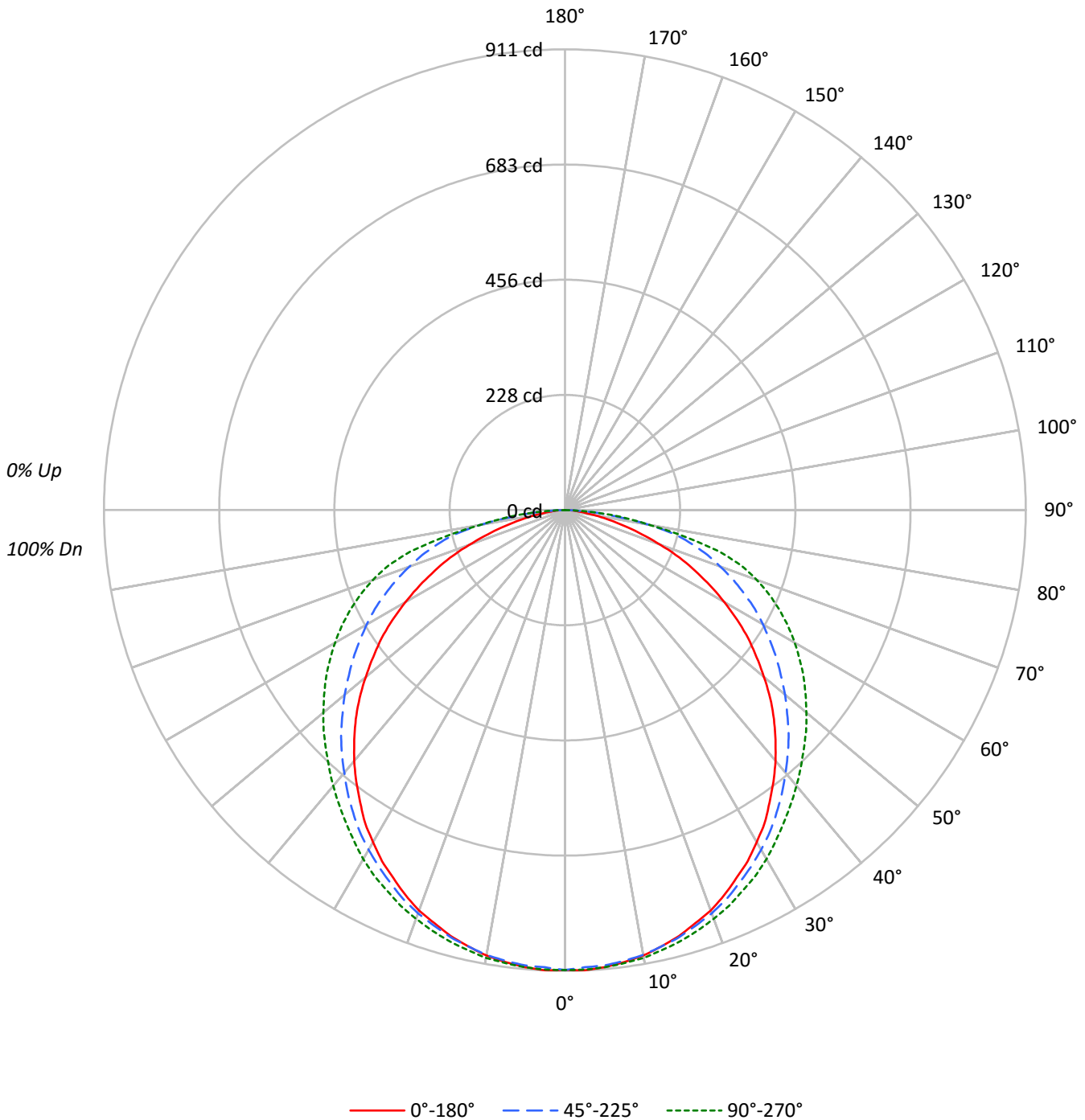
Input Watts (W): 33.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309368

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-HRP-CA08-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P309368

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-HRP-CA08-W2A-U-4000K

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	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	100	100	100	100	100		
	1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82	82	82	82	82	82		
	2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67	67	67	67	67	67		
	3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56	56	56	56	56	56		
	4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48	48	48	48	48	48		
	5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41	41	41	41	41	41		
	6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36	36	36	36	36	36		
	7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31	31	31	31	31	31		
	8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28	28	28	28	28	28		
	9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25	25	25	25	25	25		
	10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23	23	23	23	23	23		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1224	1224	1224
5°	1225	1220	1225
10°	1222	1220	1228
15°	1215	1218	1229
20°	1206	1215	1232
25°	1192	1209	1233
30°	1178	1205	1238
35°	1158	1199	1239
40°	1138	1191	1251
45°	1112	1190	1271
50°	1076	1189	1304
55°	1038	1198	1352
60°	979	1216	1411
65°	904	1244	1491
70°	790	1288	1588
75°	640	1354	1641
80°	473	1327	1327
85°	363	979	1105



TEST NUMBER: P309368

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-HRP-CA08-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.2	3.1
10°-20°	247.4	8.8
20°-30°	376.6	13.4
30°-40°	457.3	16.3
40°-50°	483.2	17.2
50°-60°	455.9	16.3
60°-70°	379.1	13.5
70°-80°	249.4	8.9
80°-90°	68.0	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°	710.2	25.3
0°-40°	1167.5	41.7
0°-60°	2106.6	75.2
0°-90°	2803.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2803.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	909	909	909	909	909	
5°	907	907	904	907	907	86
15°	872	873	874	882	882	246
25°	803	807	814	828	831	370
35°	705	714	730	749	754	441
45°	584	596	626	656	668	450
55°	442	461	510	559	576	394
65°	284	317	391	448	468	281
75°	123	180	260	309	316	133
85°	24	52	63	70	72	29
90°	0	0	0	0	0	



TEST NUMBER: P309368

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-HRP-CA08-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	909.4	909.4	909.4	909.4	909.4
2.5°	910.6	909.4	904.7	909.4	909.4
5°	907.1	907.1	903.6	907.1	907.1
7.5°	901.2	901.2	898.9	903.6	903.6
10°	894.2	894.2	893.0	898.9	898.9
12.5°	883.6	884.8	883.6	890.7	890.7
15°	871.9	873.1	874.2	882.4	882.4
17.5°	856.6	859.0	861.3	870.7	871.9
20°	842.5	843.7	848.4	859.0	860.1
22.5°	823.8	827.3	833.2	843.7	847.2
25°	802.7	807.3	814.4	828.5	830.8
27.5°	782.7	786.2	795.6	810.9	815.6
30°	758.1	763.9	775.7	790.9	796.8
32.5°	734.6	740.5	754.5	771.0	775.7
35°	705.3	713.5	729.9	748.7	754.5
37.5°	677.1	685.3	705.3	726.4	733.4
40°	647.8	657.1	678.3	702.9	712.3
42.5°	616.1	629.0	652.4	679.4	690.0
45°	584.4	596.1	625.5	656.0	667.7
47.5°	550.4	564.4	596.1	632.5	646.6
50°	514.0	531.6	568.0	607.9	623.1
52.5°	477.6	497.5	538.6	583.2	599.6
55°	442.4	461.2	510.5	558.6	576.2
57.5°	403.7	427.1	481.1	532.8	550.4
60°	363.8	389.6	451.8	505.8	524.5
62.5°	323.9	353.2	423.6	477.6	497.5
65°	284.0	316.8	390.8	448.3	468.2
67.5°	245.3	281.6	360.3	417.8	437.7
70°	200.7	246.4	327.4	383.7	403.7
72.5°	159.6	212.4	295.7	348.5	366.1
75°	123.2	179.5	260.5	308.6	315.7
77.5°	90.4	146.7	224.1	240.6	241.7
80°	61.0	117.3	171.3	169.0	171.3
82.5°	39.9	88.0	108.0	120.9	122.0
85°	23.5	51.6	63.4	70.4	71.6
87.5°	11.7	17.6	22.3	23.5	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)