

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: P309356

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-HRP-CP250-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: P309356
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-L82765-HRP-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB 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: 2405.0 lumens
Efficiency: N/A
Efficacy: 79.1 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

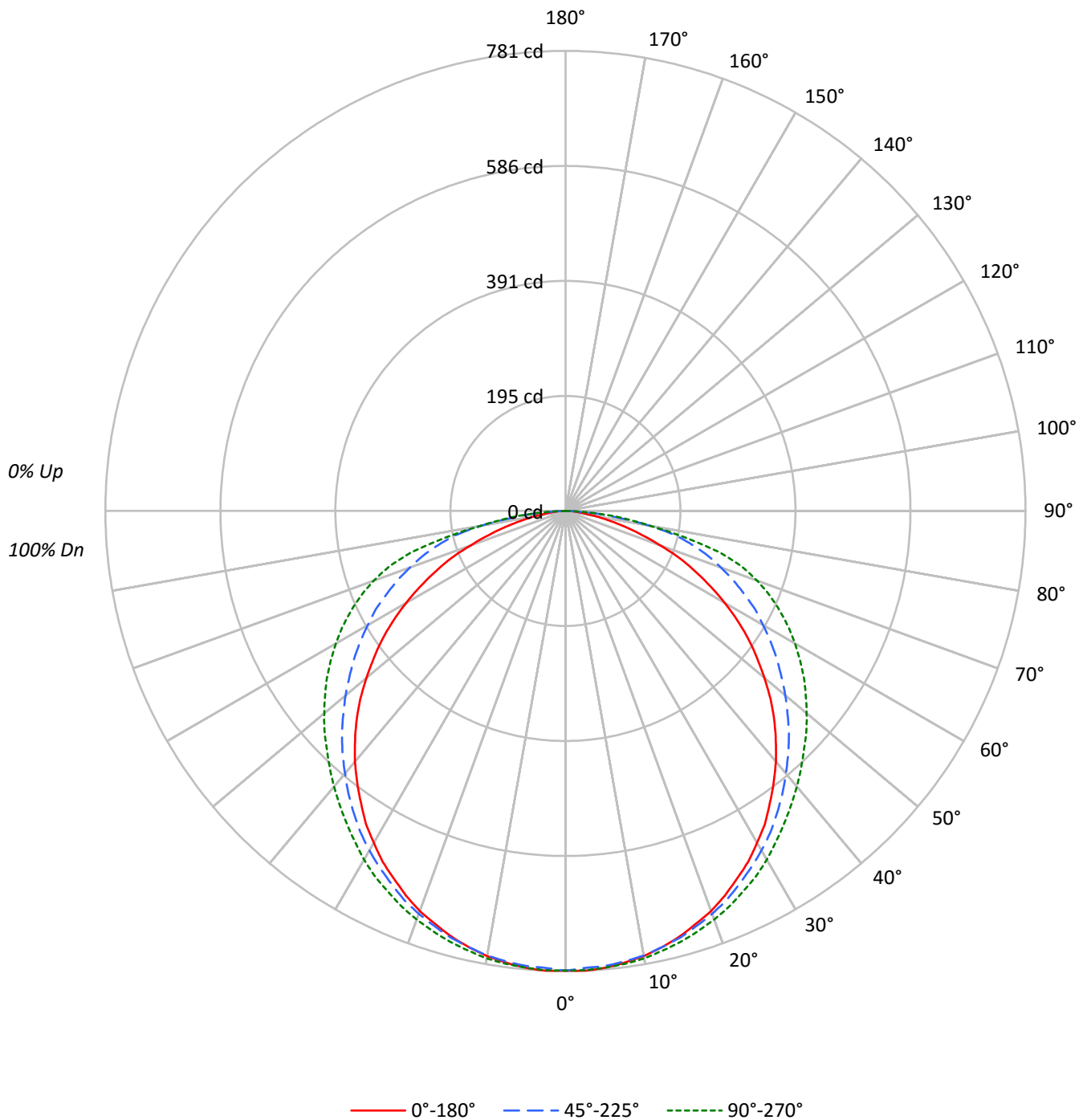
Input Watts (W): 30.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309356

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP250-W2A-U-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P309356

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP250-W2A-U-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1050	1050	1050
5°	1051	1047	1051
10°	1048	1047	1054
15°	1042	1045	1055
20°	1035	1042	1057
25°	1022	1037	1058
30°	1010	1034	1062
35°	994	1029	1063
40°	976	1022	1074
45°	954	1021	1090
50°	923	1020	1119
55°	890	1027	1160
60°	840	1043	1211
65°	776	1067	1279
70°	677	1105	1363
75°	549	1162	1408
80°	406	1139	1139
85°	310	840	948



TEST NUMBER: P309356

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP250-W2A-U-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.9	3.1
10°-20°	212.3	8.8
20°-30°	323.1	13.4
30°-40°	392.4	16.3
40°-50°	414.6	17.2
50°-60°	391.2	16.3
60°-70°	325.2	13.5
70°-80°	214.0	8.9
80°-90°	58.3	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°	609.3	25.3
0°-40°	1001.7	41.7
0°-60°	1807.4	75.2
0°-90°	2405.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2405.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	780	780	780	780	780	
5°	778	778	775	778	778	74
15°	748	749	750	757	757	211
25°	689	693	699	711	713	318
35°	605	612	626	642	647	379
45°	501	512	537	563	573	386
55°	380	396	438	479	494	338
65°	244	272	335	385	402	241
75°	106	154	224	265	271	114
85°	20	44	54	60	61	25
90°	0	0	0	0	0	



TEST NUMBER: P309356

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-HRP-CP250-W2A-U-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	780.3	780.3	780.3	780.3	780.3
2.5°	781.3	780.3	776.3	780.3	780.3
5°	778.3	778.3	775.3	778.3	778.3
7.5°	773.3	773.3	771.2	775.3	775.3
10°	767.2	767.2	766.2	771.2	771.2
12.5°	758.2	759.2	758.2	764.2	764.2
15°	748.1	749.1	750.1	757.1	757.1
17.5°	735.0	737.0	739.0	747.1	748.1
20°	722.9	723.9	727.9	737.0	738.0
22.5°	706.8	709.8	714.9	723.9	726.9
25°	688.7	692.7	698.7	710.8	712.8
27.5°	671.6	674.6	682.6	695.7	699.8
30°	650.4	655.5	665.5	678.6	683.6
32.5°	630.3	635.3	647.4	661.5	665.5
35°	605.1	612.2	626.3	642.4	647.4
37.5°	580.9	588.0	605.1	623.2	629.3
40°	555.8	563.8	582.0	603.1	611.2
42.5°	528.6	539.7	559.8	583.0	592.0
45°	501.4	511.5	536.6	562.8	572.9
47.5°	472.2	484.3	511.5	542.7	554.8
50°	441.0	456.1	487.3	521.5	534.6
52.5°	409.8	426.9	462.1	500.4	514.5
55°	379.6	395.7	438.0	479.3	494.4
57.5°	346.4	366.5	412.8	457.1	472.2
60°	312.1	334.3	387.6	433.9	450.1
62.5°	277.9	303.1	363.5	409.8	426.9
65°	243.7	271.8	335.3	384.6	401.7
67.5°	210.4	241.6	309.1	358.4	375.6
70°	172.2	211.4	280.9	329.2	346.4
72.5°	136.9	182.2	253.7	299.0	314.1
75°	105.7	154.0	223.5	264.8	270.8
77.5°	77.5	125.9	192.3	206.4	207.4
80°	52.4	100.7	147.0	145.0	147.0
82.5°	34.2	75.5	92.6	103.7	104.7
85°	20.1	44.3	54.4	60.4	61.4
87.5°	10.1	15.1	19.1	20.1	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)