

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: P309221

Luminaire Tested: **24FCZ2-30-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: P309221
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: 24FCZ2-30-UNV-L82765-HRP-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 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: 1791.0 lumens
Efficiency: N/A
Efficacy: 76.5 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

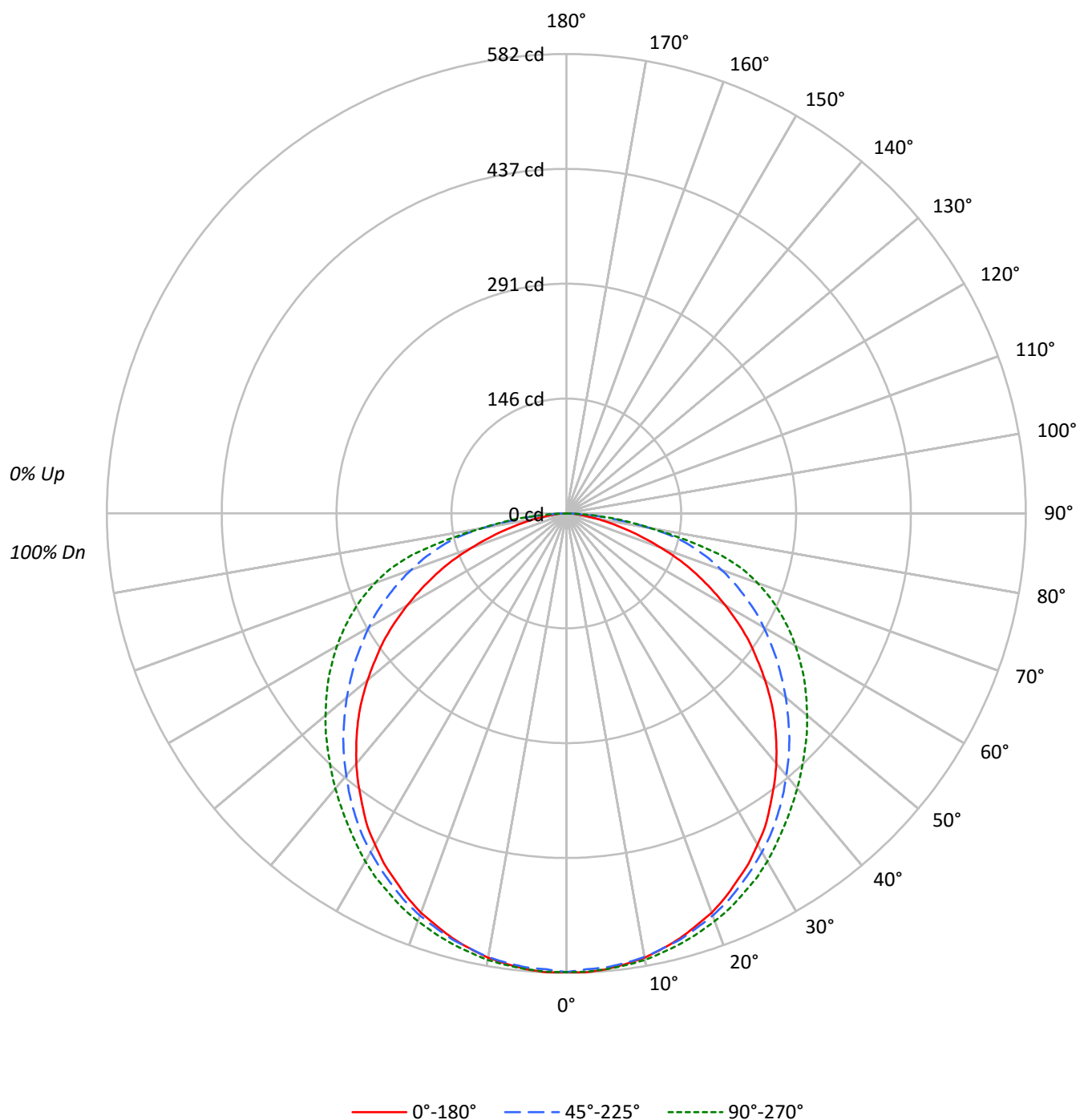
Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309221

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP250-W2A-U-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P309221

CATALOG NUMBER: 24FCZ2-30-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°	782	782	782
5°	783	780	783
10°	781	780	785
15°	776	778	785
20°	771	776	787
25°	761	773	788
30°	753	770	791
35°	740	766	792
40°	727	761	799
45°	711	760	812
50°	687	760	833
55°	663	765	863
60°	625	777	902
65°	578	795	953
70°	504	823	1015
75°	409	866	1049
80°	302	848	848
85°	232	625	706



TEST NUMBER: P309221

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP250-W2A-U-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.0	3.1
10°-20°	158.1	8.8
20°-30°	240.7	13.4
30°-40°	292.2	16.3
40°-50°	308.7	17.2
50°-60°	291.3	16.3
60°-70°	242.2	13.5
70°-80°	159.4	8.9
80°-90°	43.4	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°	453.8	25.3
0°-40°	746.0	41.7
0°-60°	1346.0	75.2
0°-90°	1791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1791.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	581	581	581	581	581	
5°	580	580	577	580	580	55
15°	557	558	559	564	564	157
25°	513	516	520	529	531	237
35°	451	456	466	478	482	282
45°	373	381	400	419	427	288
55°	283	295	326	357	368	252
65°	182	202	250	286	299	179
75°	79	115	166	197	202	85
85°	15	33	40	45	46	18
90°	0	0	0	0	0	



TEST NUMBER: P309221

CATALOG NUMBER: 24FCZ2-30-UNV-L82765-HRP-CP250-W2A-U-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	581.1	581.1	581.1	581.1	581.1
2.5°	581.8	581.1	578.1	581.1	581.1
5°	579.6	579.6	577.3	579.6	579.6
7.5°	575.8	575.8	574.3	577.3	577.3
10°	571.3	571.3	570.6	574.3	574.3
12.5°	564.6	565.3	564.6	569.1	569.1
15°	557.1	557.8	558.6	563.8	563.8
17.5°	547.4	548.9	550.3	556.3	557.1
20°	538.4	539.1	542.1	548.9	549.6
22.5°	526.4	528.6	532.4	539.1	541.4
25°	512.9	515.9	520.4	529.4	530.9
27.5°	500.1	502.4	508.4	518.1	521.1
30°	484.4	488.1	495.6	505.4	509.1
32.5°	469.4	473.1	482.1	492.6	495.6
35°	450.6	455.9	466.4	478.4	482.1
37.5°	432.6	437.9	450.6	464.1	468.6
40°	413.9	419.9	433.4	449.1	455.1
42.5°	393.6	401.9	416.9	434.1	440.9
45°	373.4	380.9	399.6	419.1	426.6
47.5°	351.7	360.7	380.9	404.1	413.1
50°	328.4	339.7	362.9	388.4	398.1
52.5°	305.2	317.9	344.2	372.6	383.1
55°	282.7	294.7	326.2	356.9	368.1
57.5°	257.9	272.9	307.4	340.4	351.7
60°	232.4	248.9	288.7	323.2	335.2
62.5°	206.9	225.7	270.7	305.2	317.9
65°	181.5	202.4	249.7	286.4	299.2
67.5°	156.7	180.0	230.2	266.9	279.7
70°	128.2	157.5	209.2	245.2	257.9
72.5°	102.0	135.7	188.9	222.7	233.9
75°	78.7	114.7	166.5	197.2	201.7
77.5°	57.7	93.7	143.2	153.7	154.5
80°	39.0	75.0	109.5	108.0	109.5
82.5°	25.5	56.2	69.0	77.2	78.0
85°	15.0	33.0	40.5	45.0	45.7
87.5°	7.5	11.2	14.2	15.0	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)