

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: P309403

Luminaire Tested: **24FCZ2-40-UNV-L82765-HRP-CP250-W2A-U-3500K**

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: P309403
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-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (168) 3500K 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: 2545.0 lumens
Efficiency: N/A
Efficacy: 77.4 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

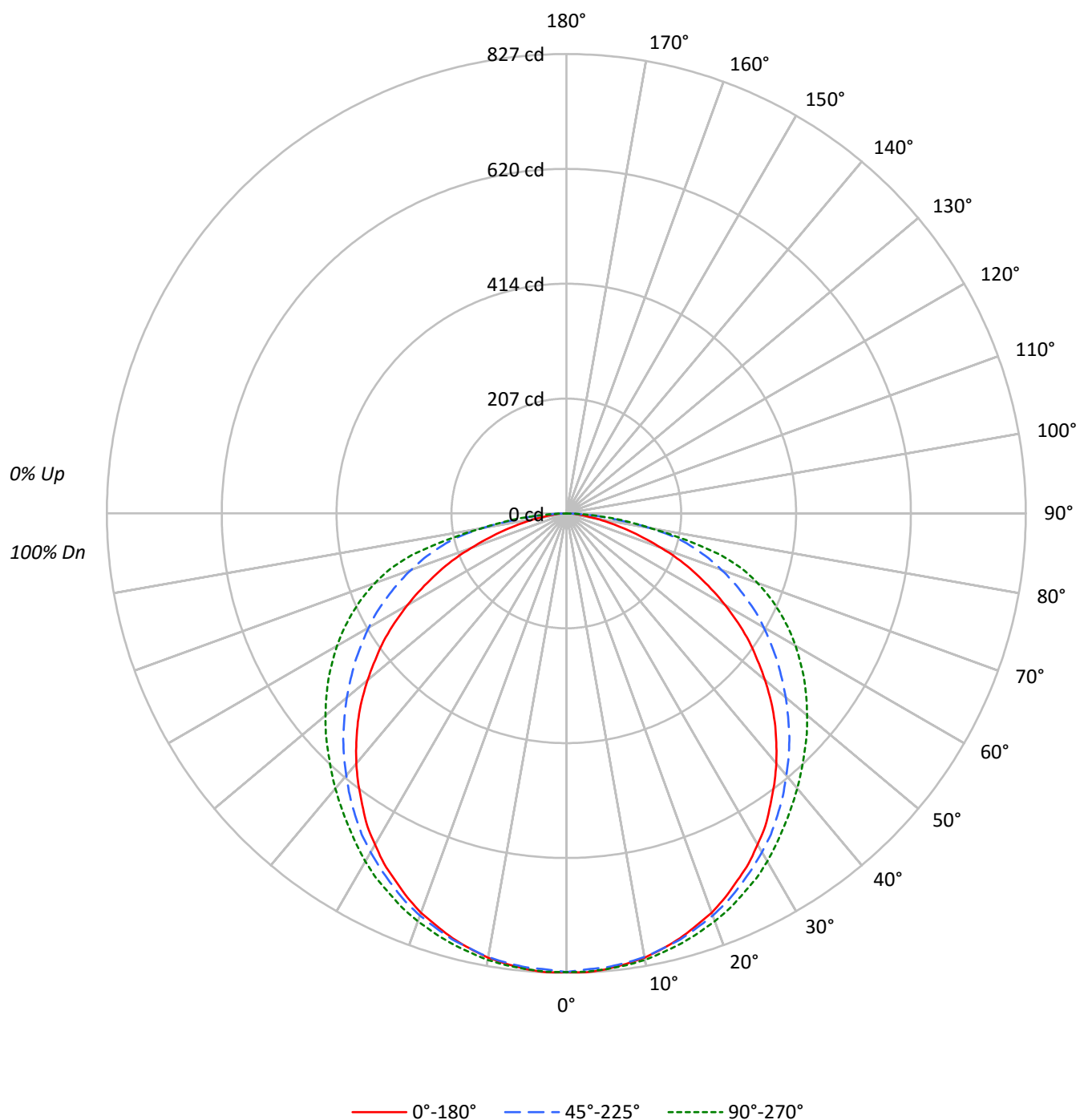
Input Watts (W): 32.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309403

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-HRP-CP250-W2A-U-3500K

Luminous Intensity Polar Plot





TEST NUMBER: P309403

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-HRP-CP250-W2A-U-3500K

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°	1111	1111	1111
5°	1112	1108	1112
10°	1109	1108	1115
15°	1103	1106	1116
20°	1095	1103	1118
25°	1082	1098	1120
30°	1069	1094	1124
35°	1052	1089	1125
40°	1033	1082	1136
45°	1010	1081	1153
50°	977	1079	1184
55°	942	1087	1227
60°	889	1104	1282
65°	821	1130	1353
70°	717	1170	1442
75°	582	1229	1490
80°	429	1206	1206
85°	329	888	1003



TEST NUMBER: P309403

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-HRP-CP250-W2A-U-3500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.2	3.1
10°-20°	224.6	8.8
20°-30°	342.0	13.4
30°-40°	415.2	16.3
40°-50°	438.7	17.2
50°-60°	413.9	16.3
60°-70°	344.2	13.5
70°-80°	226.4	8.9
80°-90°	61.7	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°	644.8	25.3
0°-40°	1060.0	41.7
0°-60°	1912.7	75.2
0°-90°	2545.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2545.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	826	826	826	826	826	
5°	824	824	820	824	824	78
15°	792	793	794	801	801	223
25°	729	733	739	752	754	336
35°	640	648	663	680	685	401
45°	531	541	568	596	606	409
55°	402	419	464	507	523	358
65°	258	288	355	407	425	255
75°	112	163	236	280	287	121
85°	21	47	58	64	65	26
90°	0	0	0	0	0	



TEST NUMBER: P309403

CATALOG NUMBER: 24FCZ2-40-UNV-L82765-HRP-CP250-W2A-U-3500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	825.7	825.7	825.7	825.7	825.7
2.5°	826.8	825.7	821.5	825.7	825.7
5°	823.6	823.6	820.4	823.6	823.6
7.5°	818.3	818.3	816.1	820.4	820.4
10°	811.9	811.9	810.8	816.1	816.1
12.5°	802.3	803.4	802.3	808.7	808.7
15°	791.6	792.7	793.8	801.2	801.2
17.5°	777.8	779.9	782.0	790.6	791.6
20°	765.0	766.1	770.3	779.9	781.0
22.5°	747.9	751.1	756.5	766.1	769.3
25°	728.8	733.0	739.4	752.2	754.3
27.5°	710.7	713.9	722.4	736.2	740.5
30°	688.3	693.6	704.3	718.1	723.4
32.5°	667.0	672.3	685.1	700.0	704.3
35°	640.3	647.8	662.7	679.8	685.1
37.5°	614.8	622.2	640.3	659.5	665.9
40°	588.1	596.7	615.8	638.2	646.7
42.5°	559.4	571.1	592.4	616.9	626.5
45°	530.6	541.3	567.9	595.6	606.2
47.5°	499.7	512.5	541.3	574.3	587.1
50°	466.7	482.7	515.7	551.9	565.8
52.5°	433.6	451.8	489.0	529.5	544.4
55°	401.7	418.7	463.5	507.2	523.1
57.5°	366.5	387.8	436.8	483.7	499.7
60°	330.3	353.7	410.2	459.2	476.3
62.5°	294.1	320.7	384.6	433.6	451.8
65°	257.8	287.7	354.8	407.0	425.1
67.5°	222.7	255.7	327.1	379.3	397.4
70°	182.2	223.7	297.3	348.4	366.5
72.5°	144.9	192.8	268.5	316.4	332.4
75°	111.9	163.0	236.5	280.2	286.6
77.5°	82.0	133.2	203.5	218.4	219.5
80°	55.4	106.5	155.6	153.4	155.6
82.5°	36.2	79.9	98.0	109.7	110.8
85°	21.3	46.9	57.5	63.9	65.0
87.5°	10.7	16.0	20.2	21.3	23.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)