

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: P310124

Luminaire Tested: **24FCZ2-45HE-UNV-L82765-RDP-CP250-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: P310124
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: 24FCZ2-45HE-UNV-L82765-RDP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (336) 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: 2555.0 lumens
Efficiency: N/A
Efficacy: 74.7 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

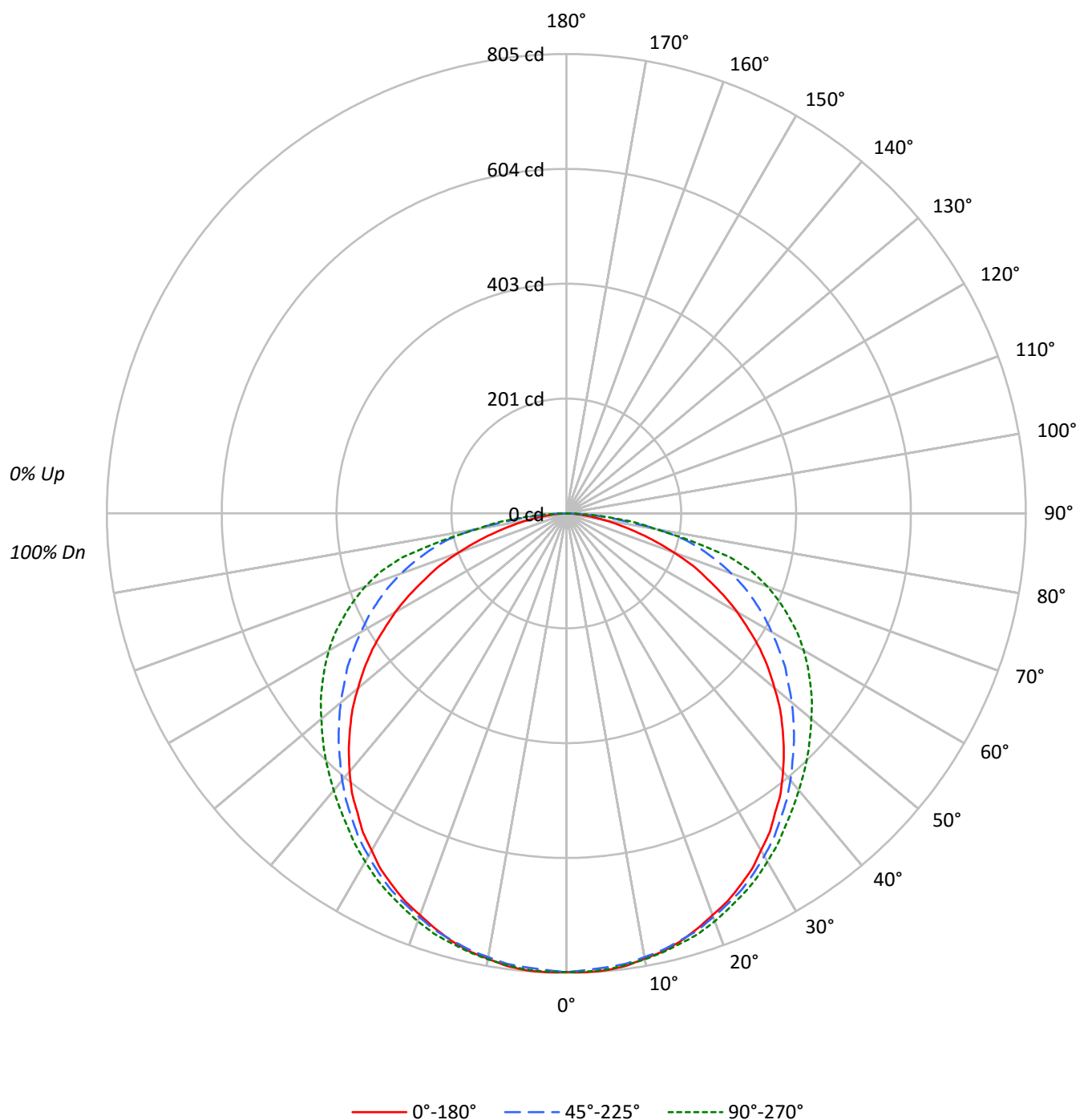
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310124

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CP250-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P310124

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CP250-W2A-U-4000K

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	100	96	92	96	93	89		92	89	87		82
2	97	89	81	75	95	87	80	74	83	77	72		80	75	71		67
3	88	77	68	62	86	76	67	61	72	66	60		70	64	59		56
4	81	68	59	52	78	67	58	51	64	57	51		62	55	50		47
5	74	60	51	44	72	59	51	44	57	49	43		55	48	43		40
6	68	54	45	38	66	53	45	38	51	44	38		50	43	37		35
7	63	49	40	34	61	48	40	34	47	39	33		45	38	33		31
8	59	45	36	30	57	44	36	30	43	35	30		41	34	29		27
9	55	41	33	27	53	40	32	27	39	32	27		38	31	26		24
10	51	38	30	24	50	37	29	24	36	29	24		35	29	24		22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1081	1081	1081
5°	1085	1078	1083
10°	1082	1079	1084
15°	1080	1079	1086
20°	1072	1078	1089
25°	1069	1080	1091
30°	1059	1077	1095
35°	1049	1074	1099
40°	1037	1073	1113
45°	1020	1073	1138
50°	997	1080	1173
55°	972	1097	1225
60°	931	1119	1292
65°	871	1158	1372
70°	793	1212	1476
75°	672	1278	1542
80°	530	1286	1247
85°	391	979	1096



TEST NUMBER: P310124

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CP250-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.2	3.0
10°-20°	219.4	8.6
20°-30°	335.4	13.1
30°-40°	410.1	16.0
40°-50°	437.1	17.1
50°-60°	417.9	16.4
60°-70°	354.0	13.9
70°-80°	237.9	9.3
80°-90°	67.1	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°	631.0	24.7
0°-40°	1041.1	40.7
0°-60°	1896.0	74.2
0°-90°	2555.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2555.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	804	804	804	804	804	
5°	804	802	798	802	802	76
15°	776	776	774	781	779	219
25°	720	722	727	734	735	332
35°	639	644	654	667	669	400
45°	536	545	564	588	598	413
55°	414	430	468	504	522	369
65°	274	302	364	412	431	272
75°	129	176	246	288	297	138
85°	25	52	63	68	71	31
90°	0	0	0	0	0	



TEST NUMBER: P310124

CATALOG NUMBER: 24FCZ2-45HE-UNV-L82765-RDP-CP250-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	803.5	803.5	803.5	803.5	803.5
2.5°	804.7	804.7	800.9	803.5	803.5
5°	803.5	802.2	798.4	802.2	802.2
7.5°	799.7	798.4	795.9	799.7	798.4
10°	792.1	792.1	789.5	793.3	793.3
12.5°	785.7	784.5	783.2	788.3	787.0
15°	775.6	775.6	774.3	780.7	779.4
17.5°	762.9	764.2	765.5	770.5	771.8
20°	749.0	751.5	752.8	760.4	760.4
22.5°	736.3	737.6	740.1	747.7	747.7
25°	719.8	722.4	727.4	733.8	735.0
27.5°	703.4	704.6	711.0	719.8	721.1
30°	681.8	685.6	693.2	703.4	704.6
32.5°	662.8	666.6	675.5	685.6	688.1
35°	638.7	643.8	653.9	666.6	669.1
37.5°	617.2	621.0	633.7	647.6	651.4
40°	590.6	598.2	610.8	627.3	633.7
42.5°	564.0	571.6	586.8	608.3	615.9
45°	536.1	544.9	564.0	588.0	598.2
47.5°	508.2	518.3	539.9	567.8	579.2
50°	476.5	489.2	515.8	547.5	560.2
52.5°	446.1	461.3	490.4	525.9	542.4
55°	414.4	429.6	467.6	504.4	522.1
57.5°	378.9	399.2	441.0	482.8	501.9
60°	346.0	365.0	415.7	461.3	480.3
62.5°	310.5	335.8	390.3	438.5	457.5
65°	273.7	301.6	363.7	411.9	430.9
67.5°	240.8	271.2	337.1	385.3	404.3
70°	201.5	239.5	308.0	356.1	375.1
72.5°	164.8	206.6	277.5	324.4	342.2
75°	129.3	176.2	245.9	287.7	296.6
77.5°	96.3	145.7	212.9	230.7	224.3
80°	68.4	116.6	166.0	157.1	160.9
82.5°	44.4	88.7	102.7	116.6	120.4
85°	25.3	52.0	63.4	68.4	71.0
87.5°	11.4	19.0	25.3	25.3	24.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)