

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: P310170

Luminaire Tested: **24FCZ2-45-UNV-L82765-RDP-CP250-W2A-U-4500K**

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: P310170
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: 24FCZ2-45-UNV-L82765-RDP-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.250" POLYCARB SHEET
Light Source: (168) 4500K 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: 2627.0 lumens
Efficiency: N/A
Efficacy: 68.6 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

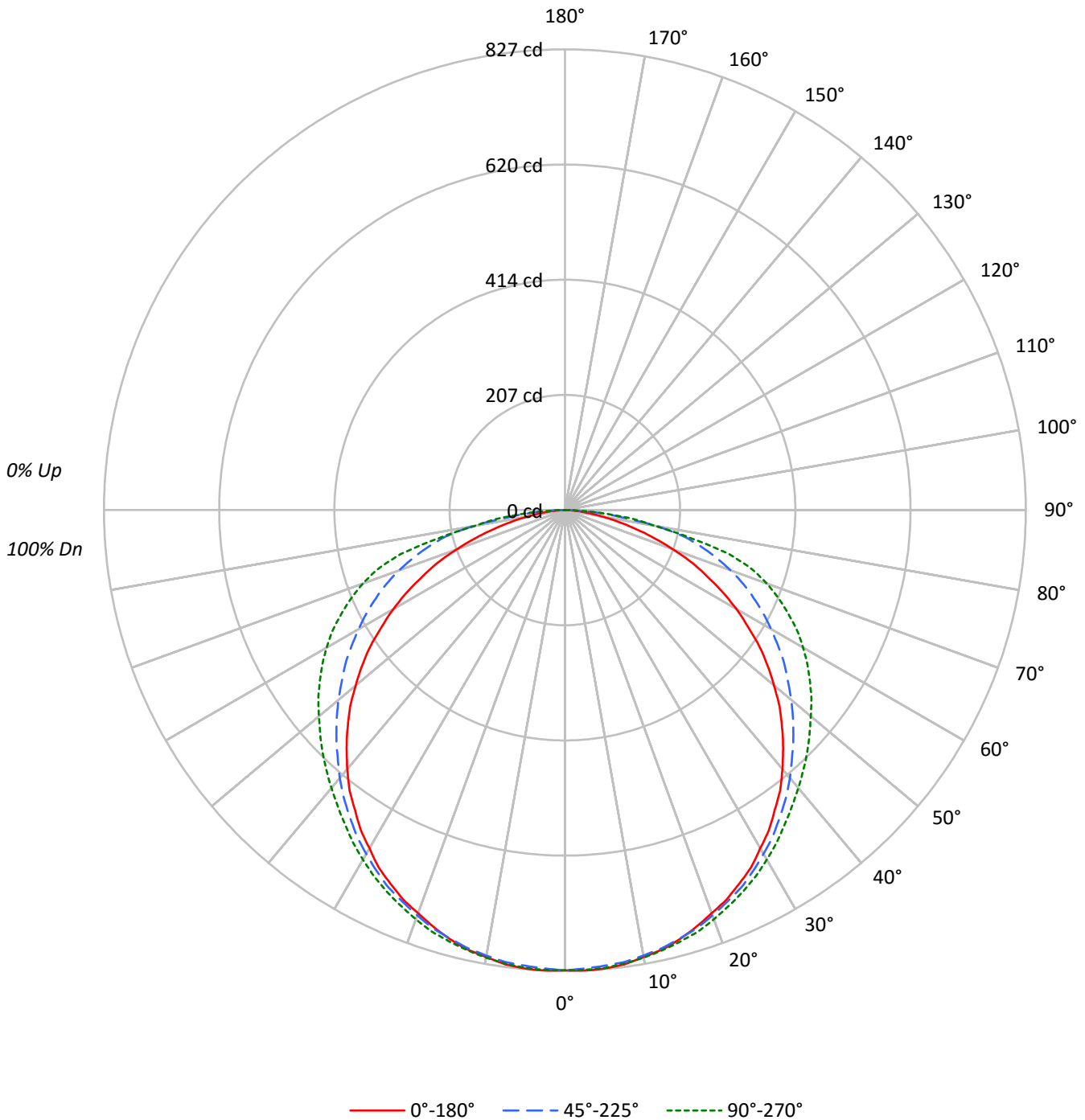
Input Watts (W): 38.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310170

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-RDP-CP250-W2A-U-4500K

Luminous Intensity Polar Plot





TEST NUMBER: P310170

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-RDP-CP250-W2A-U-4500K

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1112	1112	1112
5°	1116	1109	1114
10°	1113	1109	1114
15°	1111	1109	1116
20°	1103	1108	1119
25°	1099	1110	1122
30°	1089	1107	1126
35°	1079	1104	1130
40°	1066	1103	1144
45°	1049	1103	1170
50°	1025	1110	1205
55°	1000	1128	1259
60°	957	1150	1329
65°	896	1191	1410
70°	815	1245	1517
75°	691	1314	1585
80°	545	1323	1282
85°	403	1007	1127



TEST NUMBER: P310170

CATALOG NUMBER: 24FCZ2-45-UNV-L82765-RDP-CP250-W2A-U-4500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.4	3.0
10°-20°	225.5	8.6
20°-30°	344.9	13.1
30°-40°	421.6	16.0
40°-50°	449.4	17.1
50°-60°	429.7	16.4
60°-70°	364.0	13.9
70°-80°	244.6	9.3
80°-90°	69.0	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°	648.8	24.7
0°-40°	1070.4	40.7
0°-60°	1949.4	74.2
0°-90°	2627.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2627.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	826	826	826	826	826	
5°	826	825	821	825	825	78
15°	797	797	796	803	801	225
25°	740	743	748	754	756	341
35°	657	662	672	685	688	411
45°	551	560	580	605	615	425
55°	426	442	481	519	537	380
65°	282	310	374	424	443	279
75°	133	181	253	296	305	142
85°	26	53	65	70	73	32
90°	0	0	0	0	0	



TEST NUMBER: P310170

CATALOG NUMBER: 24FC22-45-UNV-L82765-RDP-CP250-W2A-U-4500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	826.1	826.1	826.1	826.1	826.1
2.5°	827.4	827.4	823.5	826.1	826.1
5°	826.1	824.8	820.9	824.8	824.8
7.5°	822.2	820.9	818.3	822.2	820.9
10°	814.4	814.4	811.8	815.7	815.7
12.5°	807.9	806.6	805.3	810.5	809.2
15°	797.4	797.4	796.1	802.7	801.4
17.5°	784.4	785.7	787.0	792.2	793.5
20°	770.1	772.7	774.0	781.8	781.8
22.5°	757.1	758.4	761.0	768.8	768.8
25°	740.1	742.7	747.9	754.5	755.8
27.5°	723.2	724.5	731.0	740.1	741.4
30°	701.0	704.9	712.8	723.2	724.5
32.5°	681.5	685.4	694.5	704.9	707.5
35°	656.7	661.9	672.4	685.4	688.0
37.5°	634.6	638.5	651.5	665.8	669.8
40°	607.2	615.0	628.1	645.0	651.5
42.5°	579.8	587.7	603.3	625.5	633.3
45°	551.2	560.3	579.8	604.6	615.0
47.5°	522.5	532.9	555.1	583.8	595.5
50°	489.9	503.0	530.3	562.9	575.9
52.5°	458.7	474.3	504.3	540.8	557.7
55°	426.1	441.7	480.8	518.6	536.8
57.5°	389.6	410.5	453.5	496.5	516.0
60°	355.7	375.3	427.4	474.3	493.8
62.5°	319.2	345.3	401.3	450.8	470.4
65°	281.5	310.1	374.0	423.5	443.0
67.5°	247.6	278.8	346.6	396.1	415.7
70°	207.2	246.3	316.6	366.1	385.7
72.5°	169.4	212.4	285.4	333.6	351.8
75°	132.9	181.1	252.8	295.8	304.9
77.5°	99.0	149.8	218.9	237.2	230.6
80°	70.4	119.9	170.7	161.6	165.5
82.5°	45.6	91.2	105.5	119.9	123.8
85°	26.1	53.4	65.2	70.4	73.0
87.5°	11.7	19.5	26.1	26.1	24.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)