

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: P310707

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-CP250-W2A-U-3000K**

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: P310707
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CP250-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 3000K 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: 3263.0 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

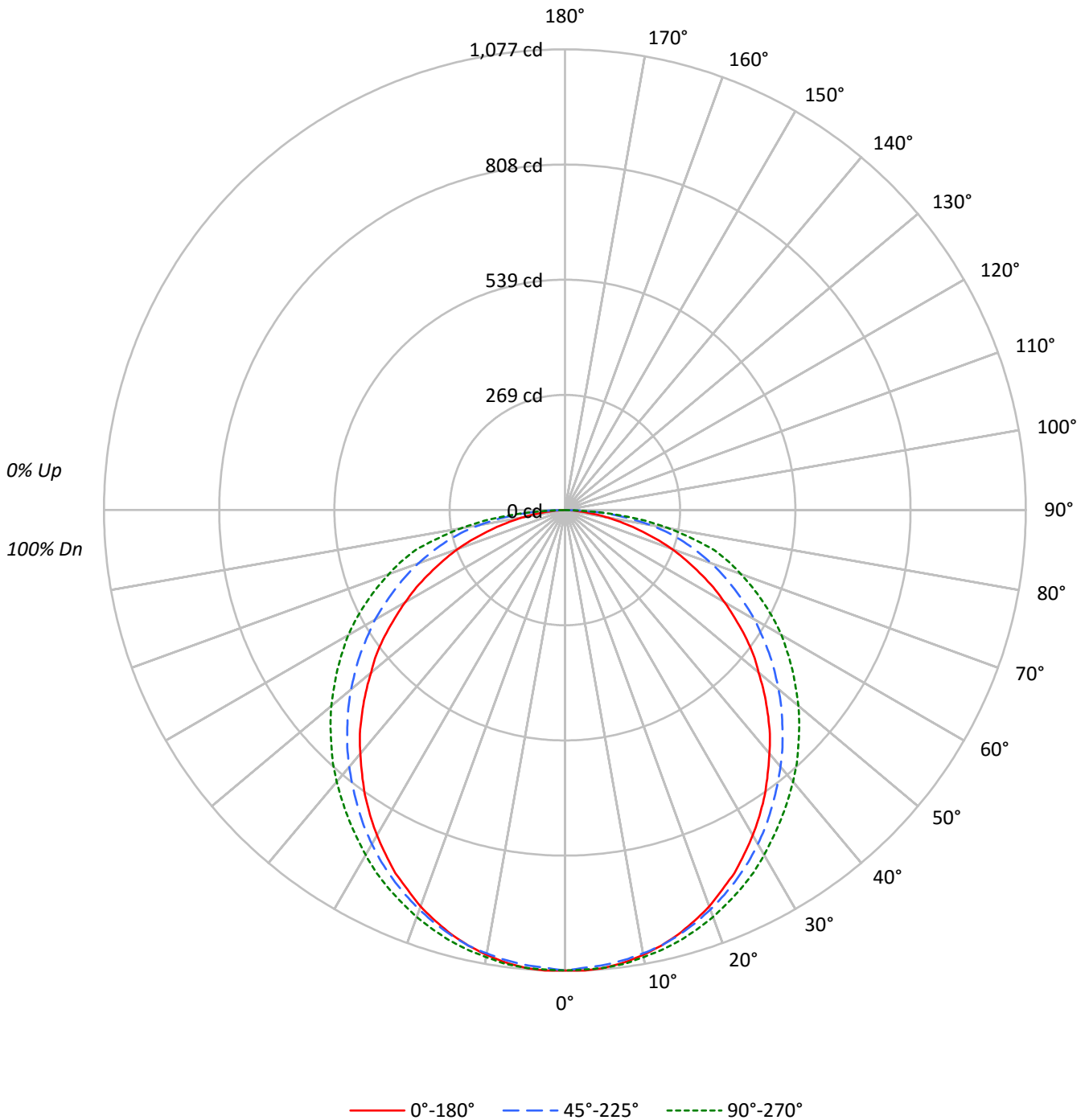
Input Watts (W): 30.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P310707

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-CP250-W2A-U-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P310707

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-CP250-W2A-U-3000K

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	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1448	1448	1448
5°	1450	1442	1450
10°	1442	1438	1450
15°	1430	1433	1451
20°	1412	1423	1449
25°	1390	1413	1448
30°	1364	1401	1446
35°	1337	1387	1447
40°	1306	1377	1457
45°	1275	1368	1469
50°	1237	1364	1491
55°	1206	1366	1521
60°	1160	1378	1573
65°	1106	1393	1630
70°	1048	1435	1721
75°	934	1497	1880
80°	797	1585	1921
85°	568	1572	1839



TEST NUMBER: P310707

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-CP250-W2A-U-3000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.8	3.1
10°-20°	291.2	8.9
20°-30°	439.8	13.5
30°-40°	530.1	16.2
40°-50°	556.5	17.1
50°-60°	520.6	16.0
60°-70°	430.0	13.2
70°-80°	293.0	9.0
80°-90°	99.9	3.1
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°	832.9	25.5
0°-40°	1363.0	41.8
0°-60°	2440.1	74.8
0°-90°	3263.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3263.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1076	1076	1076	1076	1076	
5°	1074	1073	1067	1074	1074	102
15°	1026	1027	1028	1039	1042	289
25°	936	941	952	970	975	431
35°	814	823	844	873	881	509
45°	670	684	719	758	772	517
55°	514	535	582	630	648	459
65°	348	377	437	493	512	345
75°	180	221	288	342	362	192
85°	37	72	102	115	119	46
90°	0	0	0	0	0	



TEST NUMBER: P310707

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-CP250-W2A-U-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1076.1	1076.1	1076.1	1076.1	1076.1
2.5°	1077.2	1076.1	1070.7	1076.1	1075.0
5°	1073.9	1072.9	1067.4	1073.9	1073.9
7.5°	1066.4	1066.4	1061.0	1068.5	1069.6
10°	1055.5	1055.5	1052.3	1061.0	1061.0
12.5°	1042.5	1042.5	1042.5	1051.2	1052.3
15°	1026.3	1027.4	1028.5	1039.3	1041.5
17.5°	1006.8	1009.0	1012.2	1025.2	1027.4
20°	986.3	988.4	993.8	1009.0	1012.2
22.5°	960.3	965.7	973.3	990.6	993.8
25°	936.5	940.8	951.6	970.0	975.4
27.5°	907.2	913.7	927.8	947.3	954.9
30°	878.0	884.5	901.8	924.5	931.0
32.5°	846.6	856.3	874.7	898.6	906.1
35°	814.1	822.8	844.4	872.6	881.2
37.5°	778.4	790.3	814.1	844.4	855.3
40°	743.7	756.7	783.8	816.3	829.3
42.5°	709.1	722.1	752.4	789.2	802.2
45°	670.1	684.2	718.8	757.8	771.9
47.5°	631.2	648.5	686.4	727.5	742.7
50°	591.1	610.6	651.7	695.0	712.4
52.5°	555.4	573.8	617.1	663.6	679.9
55°	514.2	534.8	582.4	630.1	648.5
57.5°	472.0	494.8	545.6	597.6	616.0
60°	430.9	455.8	512.1	564.0	584.6
62.5°	390.8	415.7	474.2	528.3	548.9
65°	347.5	376.7	437.4	492.6	512.1
67.5°	306.4	337.8	401.6	455.8	475.3
70°	266.3	296.6	364.8	417.9	437.4
72.5°	223.0	257.7	325.9	381.1	401.6
75°	179.7	220.9	288.0	342.1	361.6
77.5°	139.7	181.9	249.0	293.4	303.1
80°	102.8	146.2	204.6	236.0	247.9
82.5°	66.0	109.3	155.9	178.6	188.4
85°	36.8	72.5	101.8	114.8	119.1
87.5°	15.2	31.4	41.1	46.6	46.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)