

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: P311071

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-CP250-W2A-U-5000K**

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: P311071
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: 24FCZ2-65HE-UNV-L82765-CP250-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 5000K 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: 5710.0 lumens
Efficiency: N/A
Efficacy: 106.1 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

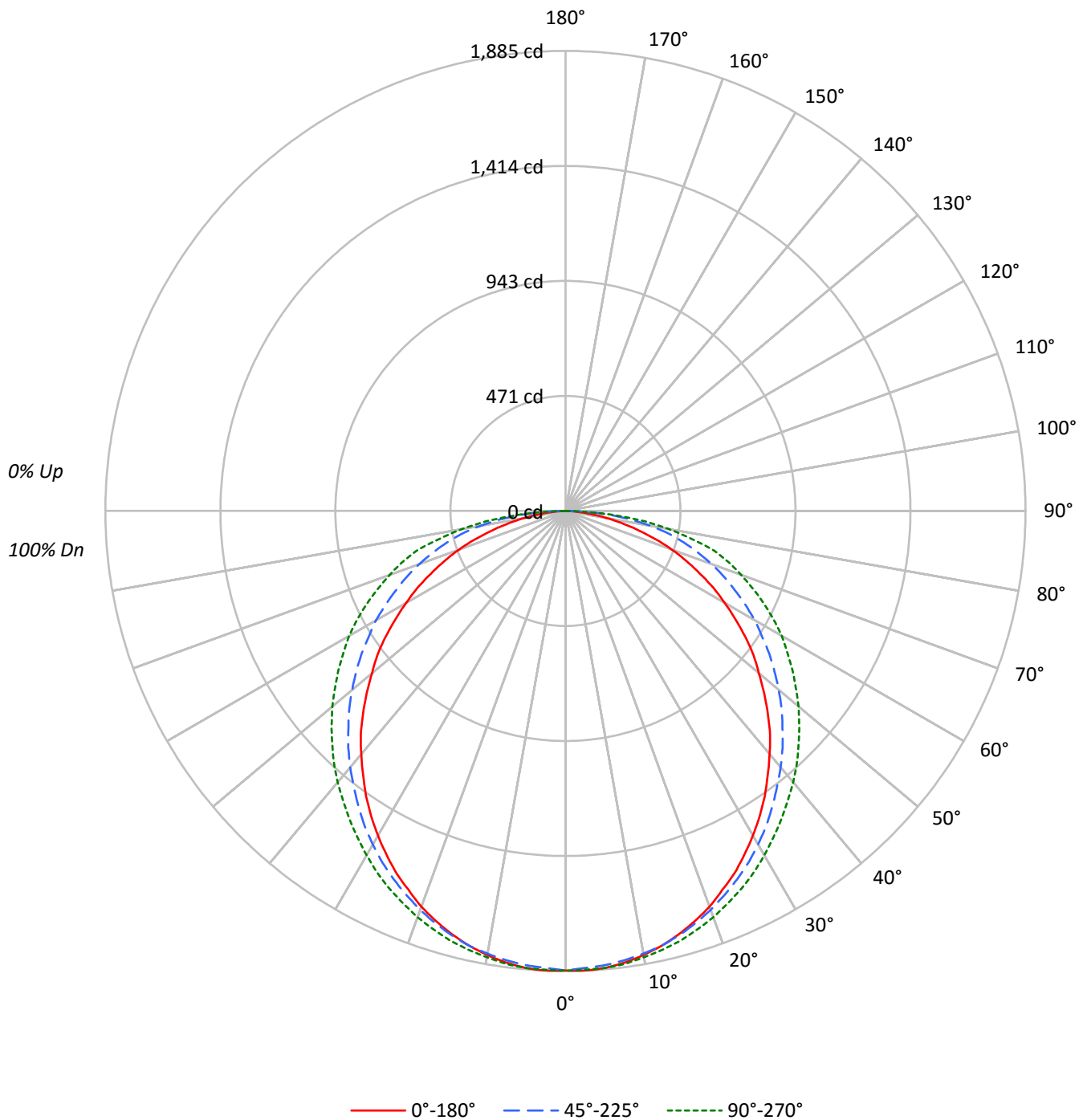
Input Watts (W): 53.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311071

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-CP250-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P311071

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-CP250-W2A-U-5000K

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2534	2534	2534
5°	2538	2523	2538
10°	2524	2516	2537
15°	2502	2507	2539
20°	2471	2490	2536
25°	2433	2472	2534
30°	2387	2452	2531
35°	2340	2427	2533
40°	2286	2409	2549
45°	2231	2394	2570
50°	2165	2387	2609
55°	2111	2391	2662
60°	2029	2411	2753
65°	1936	2437	2853
70°	1833	2511	3011
75°	1635	2620	3290
80°	1395	2775	3361
85°	994	2749	3217



TEST NUMBER: P311071

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-CP250-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.2	3.1
10°-20°	509.6	8.9
20°-30°	769.7	13.5
30°-40°	927.6	16.2
40°-50°	973.9	17.1
50°-60°	911.1	16.0
60°-70°	752.4	13.2
70°-80°	512.7	9.0
80°-90°	174.9	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°	1457.5	25.5
0°-40°	2385.1	41.8
0°-60°	4270.1	74.8
0°-90°	5710.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5710.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1883	1883	1883	1883	1883	
5°	1879	1877	1868	1879	1879	178
15°	1796	1798	1800	1819	1822	506
25°	1639	1646	1665	1697	1707	754
35°	1425	1440	1478	1527	1542	890
45°	1173	1197	1258	1326	1351	904
55°	900	936	1019	1103	1135	803
65°	608	659	765	862	896	603
75°	314	386	504	599	633	335
85°	64	127	178	201	208	81
90°	0	0	0	0	0	



TEST NUMBER: P311071

CATALOG NUMBER: 24FCZ2-65HE-UNV-L82765-CP250-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1883.1	1883.1	1883.1	1883.1	1883.1
2.5°	1885.0	1883.1	1873.6	1883.1	1881.2
5°	1879.3	1877.4	1868.0	1879.3	1879.3
7.5°	1866.1	1866.1	1856.6	1869.8	1871.7
10°	1847.1	1847.1	1841.4	1856.6	1856.6
12.5°	1824.4	1824.4	1824.4	1839.5	1841.4
15°	1796.0	1797.9	1799.8	1818.7	1822.5
17.5°	1761.9	1765.7	1771.3	1794.1	1797.9
20°	1725.9	1729.7	1739.1	1765.7	1771.3
22.5°	1680.4	1689.9	1703.1	1733.4	1739.1
25°	1638.7	1646.3	1665.2	1697.4	1706.9
27.5°	1587.6	1598.9	1623.6	1657.7	1670.9
30°	1536.4	1547.8	1578.1	1617.9	1629.2
32.5°	1481.5	1498.5	1530.7	1572.4	1585.7
35°	1424.6	1439.8	1477.7	1526.9	1542.1
37.5°	1362.1	1383.0	1424.6	1477.7	1496.6
40°	1301.5	1324.2	1371.6	1428.4	1451.2
42.5°	1240.9	1263.6	1316.7	1381.1	1403.8
45°	1172.7	1197.3	1257.9	1326.1	1350.8
47.5°	1104.5	1134.8	1201.1	1273.1	1299.6
50°	1034.4	1068.5	1140.5	1216.3	1246.6
52.5°	971.9	1004.1	1079.9	1161.3	1189.7
55°	899.9	935.9	1019.2	1102.6	1134.8
57.5°	826.0	865.8	954.8	1045.8	1078.0
60°	754.0	797.6	896.1	987.0	1023.0
62.5°	683.9	727.5	829.8	924.5	960.5
65°	608.1	659.3	765.4	862.0	896.1
67.5°	536.1	591.1	702.9	797.6	831.7
70°	466.0	519.1	638.4	731.3	765.4
72.5°	390.3	450.9	570.2	666.9	702.9
75°	314.5	386.5	503.9	598.7	632.8
77.5°	244.4	318.3	435.7	513.4	530.5
80°	180.0	255.8	358.1	413.0	433.8
82.5°	115.6	191.3	272.8	312.6	329.6
85°	64.4	126.9	178.1	200.8	208.4
87.5°	26.5	54.9	72.0	81.5	81.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)