

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: P311082

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5700K**

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: P311082
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: 24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5700K 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: 6721.0 lumens
Efficiency: N/A
Efficacy: 113.3 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

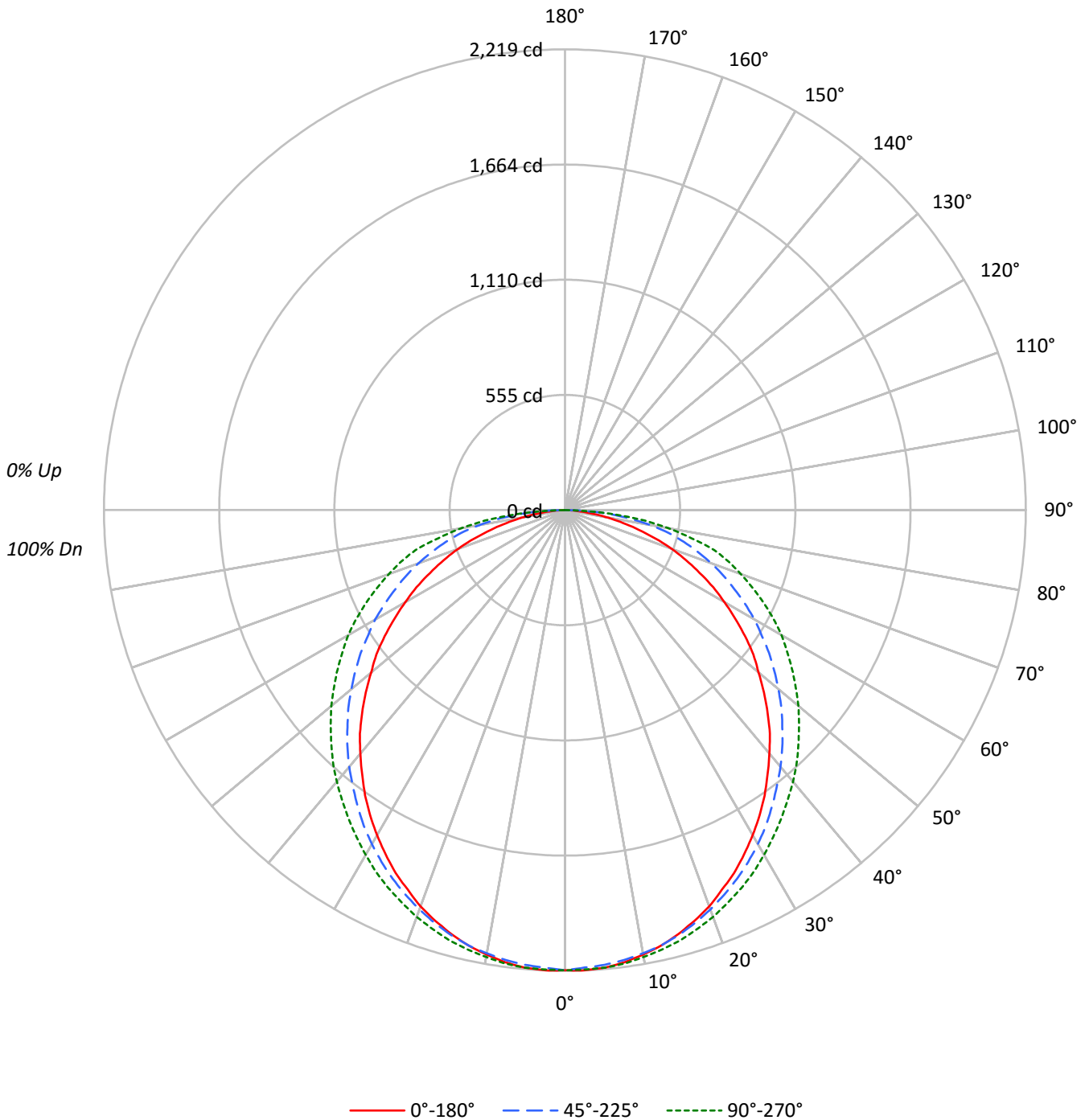
Input Watts (W): 59.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311082

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5700K

Luminous Intensity Polar Plot





TEST NUMBER: P311082

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5700K

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°	2982	2982	2982
5°	2988	2970	2988
10°	2970	2961	2986
15°	2945	2951	2988
20°	2909	2931	2985
25°	2864	2910	2983
30°	2810	2886	2979
35°	2754	2857	2981
40°	2691	2836	3000
45°	2626	2817	3025
50°	2548	2810	3071
55°	2485	2814	3133
60°	2388	2838	3240
65°	2279	2868	3358
70°	2158	2956	3544
75°	1925	3084	3872
80°	1641	3266	3956
85°	1170	3236	3787



TEST NUMBER: P311082

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.8	3.1
10°-20°	599.8	8.9
20°-30°	906.0	13.5
30°-40°	1091.9	16.2
40°-50°	1146.3	17.1
50°-60°	1072.4	16.0
60°-70°	885.6	13.2
70°-80°	603.5	9.0
80°-90°	205.8	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°	1715.5	25.5
0°-40°	2807.4	41.8
0°-60°	5026.1	74.8
0°-90°	6721.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6721.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2216	2216	2216	2216	2216	
5°	2212	2210	2199	2212	2212	210
15°	2114	2116	2118	2141	2145	596
25°	1929	1938	1960	1998	2009	887
35°	1677	1695	1739	1797	1815	1048
45°	1380	1409	1481	1561	1590	1065
55°	1059	1102	1200	1298	1336	945
65°	716	776	901	1015	1055	710
75°	370	455	593	705	745	395
85°	76	149	210	236	245	95
90°	0	0	0	0	0	



TEST NUMBER: P311082

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-CA08-W2A-U-5700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2216.5	2216.5	2216.5	2216.5	2216.5
2.5°	2218.8	2216.5	2205.4	2216.5	2214.3
5°	2212.1	2209.8	2198.7	2212.1	2212.1
7.5°	2196.5	2196.5	2185.3	2200.9	2203.1
10°	2174.2	2174.2	2167.5	2185.3	2185.3
12.5°	2147.4	2147.4	2147.4	2165.2	2167.5
15°	2114.0	2116.2	2118.4	2140.7	2145.2
17.5°	2073.8	2078.3	2085.0	2111.7	2116.2
20°	2031.4	2035.9	2047.1	2078.3	2085.0
22.5°	1977.9	1989.1	2004.7	2040.4	2047.1
25°	1928.9	1937.8	1960.1	1998.0	2009.1
27.5°	1868.7	1882.0	1911.0	1951.2	1966.8
30°	1808.5	1821.8	1857.5	1904.3	1917.7
32.5°	1743.8	1763.9	1801.8	1850.8	1866.4
35°	1676.9	1694.7	1739.3	1797.3	1815.1
37.5°	1603.3	1627.8	1676.9	1739.3	1761.6
40°	1531.9	1558.7	1614.5	1681.3	1708.1
42.5°	1460.6	1487.3	1549.8	1625.6	1652.4
45°	1380.3	1409.3	1480.7	1560.9	1589.9
47.5°	1300.0	1335.7	1413.8	1498.5	1529.7
50°	1217.5	1257.7	1342.4	1431.6	1467.3
52.5°	1143.9	1181.9	1271.0	1366.9	1400.4
55°	1059.2	1101.6	1199.7	1297.8	1335.7
57.5°	972.2	1019.1	1123.9	1230.9	1268.8
60°	887.5	938.8	1054.7	1161.8	1204.1
62.5°	805.0	856.3	976.7	1088.2	1130.6
65°	715.8	776.0	900.9	1014.6	1054.7
67.5°	631.1	695.7	827.3	938.8	978.9
70°	548.6	611.0	751.5	860.7	900.9
72.5°	459.4	530.7	671.2	784.9	827.3
75°	370.2	454.9	593.2	704.7	744.8
77.5°	287.7	374.6	512.9	604.3	624.4
80°	211.8	301.0	421.5	486.1	510.6
82.5°	136.0	225.2	321.1	367.9	388.0
85°	75.8	149.4	209.6	236.4	245.3
87.5°	31.2	64.7	84.7	95.9	95.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)