

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: P311154

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-CP187-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: P311154
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: 24FCZ2-75HE-UNV-L82765-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB 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: 6723.0 lumens
Efficiency: N/A
Efficacy: 104.1 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

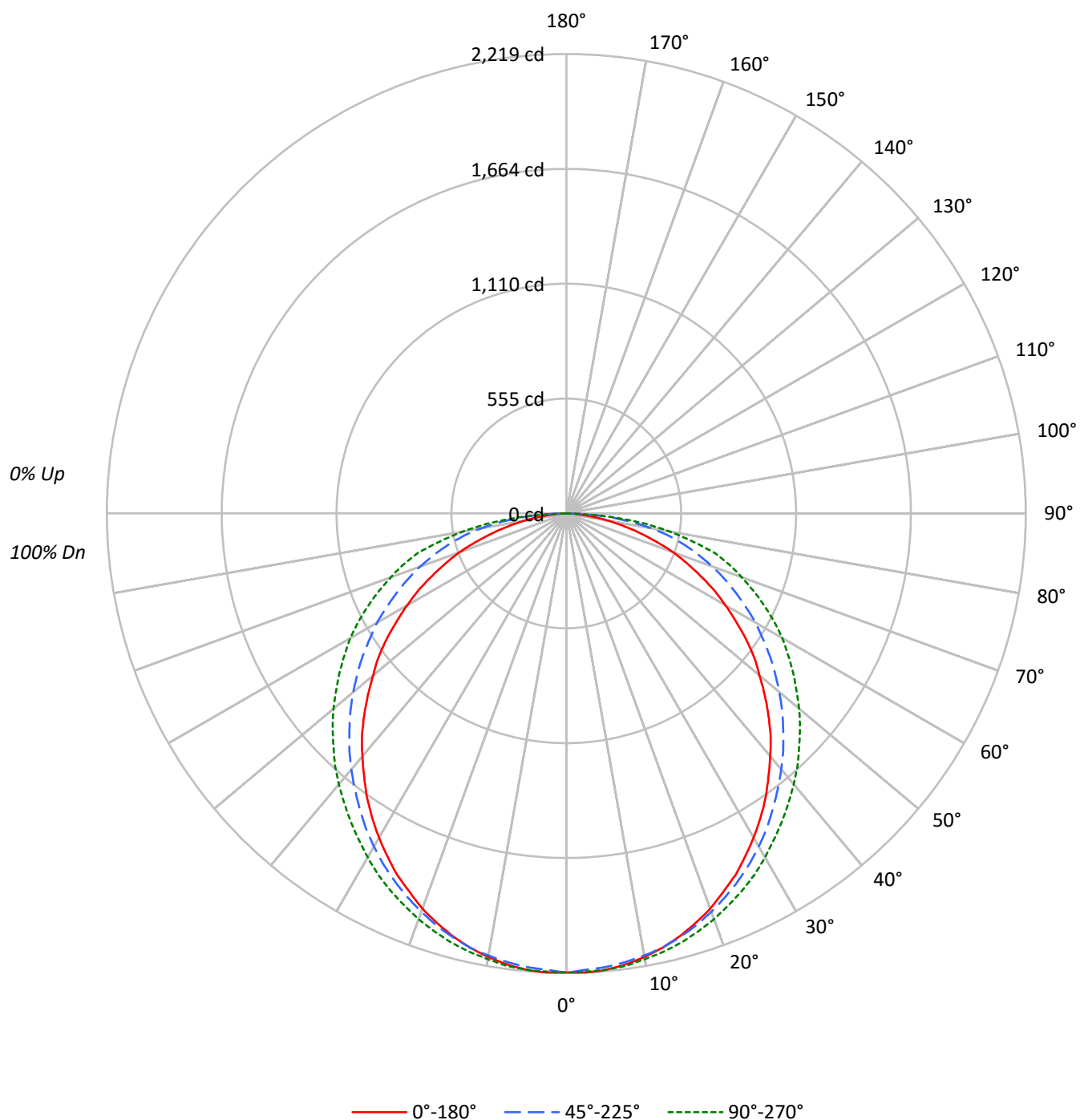
Input Watts (W): 64.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311154

CATALOG NUMBER: 24FCZ2-75HE-UNV-L82765-CP187-W2A-U-5700K

Luminous Intensity Polar Plot





TEST NUMBER: P311154

CATALOG NUMBER: 24FCZ2-75HE-UNV-L82765-CP187-W2A-U-5700K

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°	2983	2983	2983
5°	2989	2970	2989
10°	2971	2962	2987
15°	2946	2952	2989
20°	2909	2932	2986
25°	2864	2911	2984
30°	2811	2887	2980
35°	2755	2858	2982
40°	2692	2836	3001
45°	2627	2818	3026
50°	2549	2811	3072
55°	2485	2815	3134
60°	2389	2839	3241
65°	2280	2869	3359
70°	2159	2957	3545
75°	1925	3084	3873
80°	1642	3267	3958
85°	1170	3237	3788



TEST NUMBER: P311154

CATALOG NUMBER: 24FCZ2-75HE-UNV-L82765-CP187-W2A-U-5700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.8	3.1
10°-20°	600.0	8.9
20°-30°	906.2	13.5
30°-40°	1092.2	16.2
40°-50°	1146.6	17.1
50°-60°	1072.7	16.0
60°-70°	885.9	13.2
70°-80°	603.7	9.0
80°-90°	205.9	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°	1716.0	25.5
0°-40°	2808.2	41.8
0°-60°	5027.6	74.8
0°-90°	6723.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6723.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2217	2217	2217	2217	2217	
5°	2213	2210	2199	2213	2213	210
15°	2115	2117	2119	2141	2146	596
25°	1929	1938	1961	1999	2010	888
35°	1677	1695	1740	1798	1816	1048
45°	1381	1410	1481	1561	1590	1065
55°	1060	1102	1200	1298	1336	946
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: P311154

CATALOG NUMBER: 24FCZ2-75HE-UNV-L82765-CP187-W2A-U-5700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2217.2	2217.2	2217.2	2217.2	2217.2
2.5°	2219.4	2217.2	2206.0	2217.2	2215.0
5°	2212.7	2210.5	2199.3	2212.7	2212.7
7.5°	2197.1	2197.1	2186.0	2201.6	2203.8
10°	2174.8	2174.8	2168.1	2186.0	2186.0
12.5°	2148.0	2148.0	2148.0	2165.9	2168.1
15°	2114.6	2116.8	2119.0	2141.3	2145.8
17.5°	2074.4	2078.9	2085.6	2112.4	2116.8
20°	2032.0	2036.5	2047.7	2078.9	2085.6
22.5°	1978.5	1989.7	2005.3	2041.0	2047.7
25°	1929.4	1938.4	1960.7	1998.6	2009.7
27.5°	1869.2	1882.6	1911.6	1951.7	1967.4
30°	1809.0	1822.4	1858.1	1904.9	1918.3
32.5°	1744.3	1764.4	1802.3	1851.4	1867.0
35°	1677.4	1695.2	1739.8	1797.8	1815.7
37.5°	1603.8	1628.3	1677.4	1739.8	1762.2
40°	1532.4	1559.2	1614.9	1681.9	1708.6
42.5°	1461.0	1487.8	1550.2	1626.1	1652.9
45°	1380.7	1409.7	1481.1	1561.4	1590.4
47.5°	1300.4	1336.1	1414.2	1498.9	1530.2
50°	1217.9	1258.0	1342.8	1432.0	1467.7
52.5°	1144.3	1182.2	1271.4	1367.3	1400.8
55°	1059.5	1101.9	1200.0	1298.2	1336.1
57.5°	972.5	1019.4	1124.2	1231.3	1269.2
60°	887.8	939.1	1055.1	1162.1	1204.5
62.5°	805.2	856.5	977.0	1088.5	1130.9
65°	716.0	776.2	901.2	1014.9	1055.1
67.5°	631.3	695.9	827.5	939.1	979.2
70°	548.7	611.2	751.7	861.0	901.2
72.5°	459.5	530.9	671.4	785.2	827.5
75°	370.3	455.0	593.3	704.9	745.0
77.5°	287.7	374.7	513.0	604.5	624.6
80°	211.9	301.1	421.6	486.3	510.8
82.5°	136.1	225.3	321.2	368.0	388.1
85°	75.8	149.4	209.7	236.4	245.4
87.5°	31.2	64.7	84.8	95.9	95.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)