

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: P311825

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-4000K**

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: P311825
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4000K 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: 6763.0 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

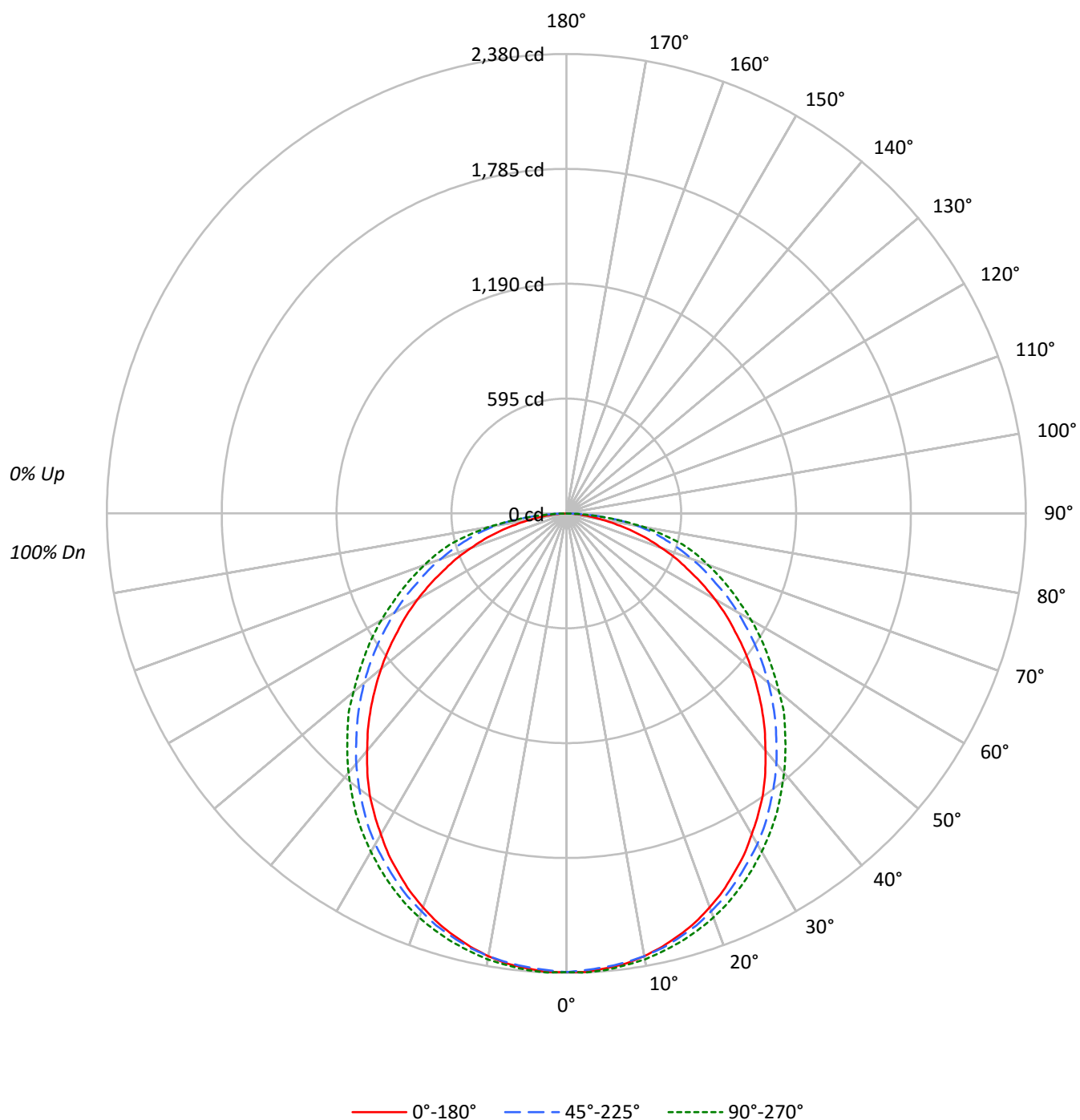
Input Watts (W): 63.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311825

CATALOG NUMBER: 24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P311825

CATALOG NUMBER: 24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-4000K

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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3197	3197	3197
5°	3194	3186	3206
10°	3181	3181	3205
15°	3151	3166	3199
20°	3110	3140	3190
25°	3052	3109	3170
30°	2984	3074	3144
35°	2918	3024	3119
40°	2819	2973	3083
45°	2726	2915	3049
50°	2622	2860	3013
55°	2504	2807	2983
60°	2387	2763	2977
65°	2237	2715	2996
70°	2070	2730	3076
75°	1854	2781	3250
80°	1498	2946	3179
85°	1127	2587	2521



TEST NUMBER: P311825

CATALOG NUMBER: 24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-4000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.9	3.3
10°-20°	642.7	9.5
20°-30°	966.1	14.3
30°-40°	1150.8	17.0
40°-50°	1177.8	17.4
50°-60°	1060.4	15.7
60°-70°	832.7	12.3
70°-80°	540.4	8.0
80°-90°	167.1	2.5
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°	1833.7	27.1
0°-40°	2984.5	44.1
0°-60°	5222.7	77.2
0°-90°	6763.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6763.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2376	2376	2376	2376	2376	
5°	2365	2369	2359	2372	2374	225
15°	2262	2268	2273	2292	2296	638
25°	2056	2073	2094	2129	2135	947
35°	1776	1798	1841	1886	1899	1108
45°	1433	1467	1532	1590	1602	1105
55°	1068	1115	1196	1259	1272	957
65°	702	756	853	924	941	699
75°	357	425	535	608	625	377
85°	73	135	168	163	163	88
90°	0	0	0	0	0	



TEST NUMBER: P311825

CATALOG NUMBER: 24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-4000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2375.9	2375.9	2375.9	2375.9	2375.9
2.5°	2378.0	2378.0	2367.3	2378.0	2380.2
5°	2365.1	2369.4	2358.7	2371.6	2373.7
7.5°	2352.3	2352.3	2345.8	2358.7	2360.8
10°	2328.6	2330.8	2328.6	2343.7	2345.8
12.5°	2298.6	2302.8	2305.0	2320.0	2322.2
15°	2262.0	2268.5	2272.8	2292.1	2296.4
17.5°	2221.2	2227.7	2238.4	2259.9	2264.2
20°	2171.8	2180.4	2193.3	2221.2	2227.7
22.5°	2118.1	2126.7	2148.2	2174.0	2184.7
25°	2055.8	2073.0	2094.5	2128.8	2135.3
27.5°	1993.5	2008.5	2036.5	2073.0	2081.6
30°	1920.5	1944.1	1978.5	2015.0	2023.6
32.5°	1849.6	1873.2	1914.0	1952.7	1963.4
35°	1776.5	1798.0	1841.0	1886.1	1899.0
37.5°	1692.8	1720.7	1768.0	1813.1	1826.0
40°	1604.7	1639.1	1692.8	1740.0	1755.1
42.5°	1520.9	1557.4	1611.1	1662.7	1679.9
45°	1432.8	1467.2	1531.7	1589.7	1602.5
47.5°	1342.6	1381.3	1450.0	1508.0	1529.5
50°	1252.4	1293.2	1366.2	1426.4	1439.3
52.5°	1162.2	1205.1	1282.5	1346.9	1353.4
55°	1067.6	1114.9	1196.5	1258.8	1271.7
57.5°	981.7	1022.5	1110.6	1175.1	1190.1
60°	887.2	932.3	1026.8	1087.0	1106.3
62.5°	797.0	844.2	943.1	1003.2	1020.4
65°	702.5	756.2	852.8	923.7	940.9
67.5°	620.8	672.4	775.5	844.2	861.4
70°	526.3	584.3	693.9	764.8	781.9
72.5°	444.7	504.8	614.4	683.1	708.9
75°	356.6	425.3	534.9	607.9	625.1
77.5°	270.7	350.2	461.9	517.7	517.7
80°	193.3	277.1	380.2	406.0	410.3
82.5°	126.7	208.4	281.4	279.3	279.3
85°	73.0	135.3	167.6	163.3	163.3
87.5°	27.9	55.9	60.1	60.1	58.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)