

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: P311824

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-S-CP187-W2A-U-3500K**

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: P311824
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-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 3500K 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: 6618.0 lumens
Efficiency: N/A
Efficacy: 104.9 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

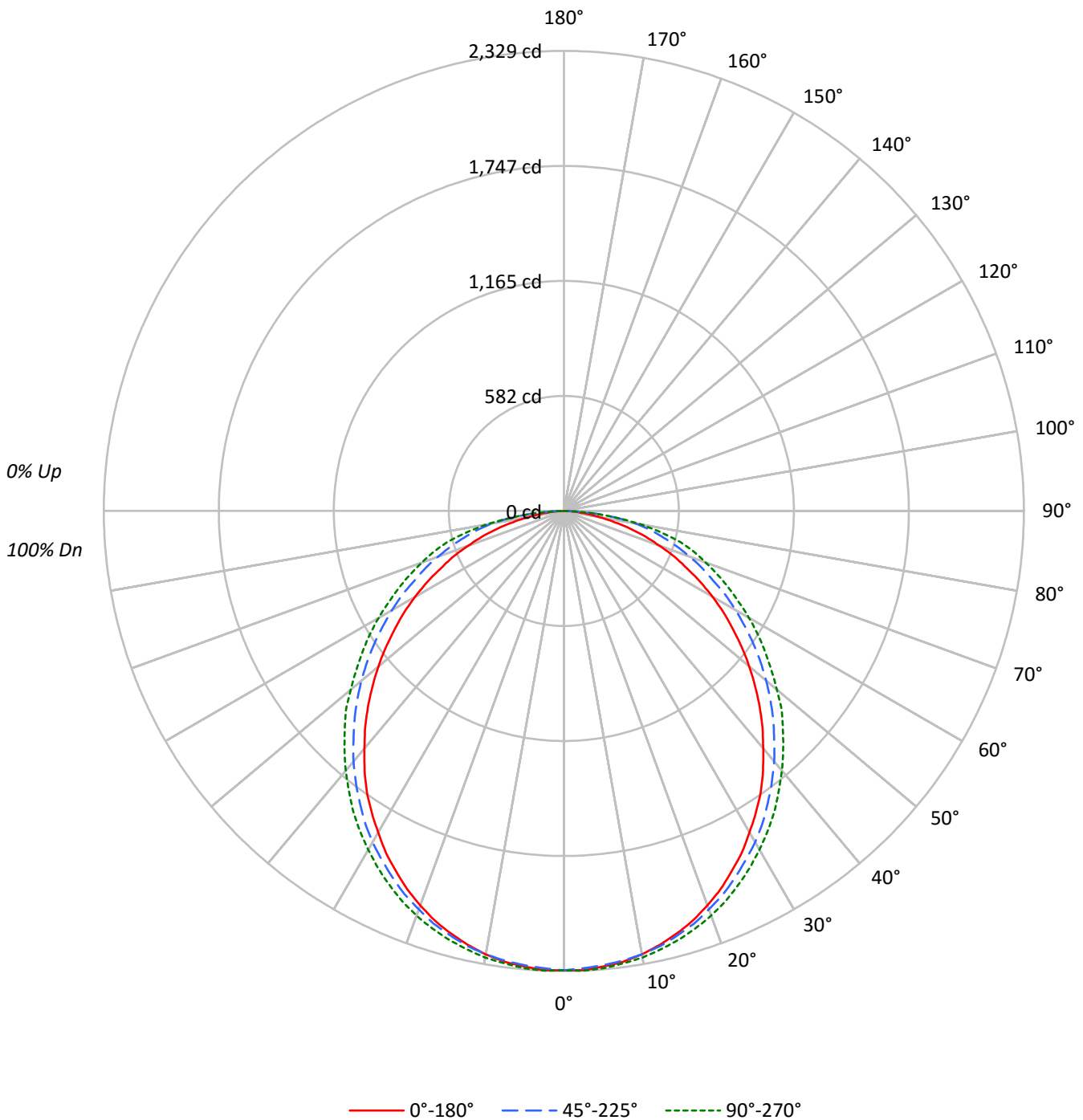
Input Watts (W): 63.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3128	3128	3128
5°	3126	3117	3137
10°	3113	3113	3136
15°	3083	3098	3130
20°	3043	3073	3121
25°	2987	3043	3102
30°	2920	3008	3077
35°	2856	2959	3052
40°	2758	2909	3016
45°	2668	2852	2984
50°	2565	2798	2948
55°	2451	2747	2919
60°	2336	2704	2913
65°	2188	2657	2931
70°	2026	2671	3010
75°	1814	2721	3180
80°	1466	2883	3111
85°	1104	2532	2467



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.1	3.3
10°-20°	628.9	9.5
20°-30°	945.4	14.3
30°-40°	1126.1	17.0
40°-50°	1152.5	17.4
50°-60°	1037.6	15.7
60°-70°	814.9	12.3
70°-80°	528.9	8.0
80°-90°	163.6	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°	1794.4	27.1
0°-40°	2920.5	44.1
0°-60°	5110.7	77.2
0°-90°	6618.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6618.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2325	2325	2325	2325	2325	
5°	2314	2319	2308	2321	2323	220
15°	2214	2220	2224	2243	2247	624
25°	2012	2028	2050	2083	2090	927
35°	1738	1760	1802	1846	1858	1085
45°	1402	1436	1499	1556	1568	1081
55°	1045	1091	1171	1232	1244	937
65°	687	740	834	904	921	684
75°	349	416	523	595	612	369
85°	72	132	164	160	160	86
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2324.9	2324.9	2324.9	2324.9	2324.9
2.5°	2327.0	2327.0	2316.5	2327.0	2329.2
5°	2314.4	2318.6	2308.1	2320.7	2322.8
7.5°	2301.8	2301.8	2295.5	2308.1	2310.2
10°	2278.7	2280.8	2278.7	2293.4	2295.5
12.5°	2249.3	2253.5	2255.6	2270.3	2272.4
15°	2213.5	2219.8	2224.0	2243.0	2247.2
17.5°	2173.6	2179.9	2190.4	2211.4	2215.6
20°	2125.2	2133.7	2146.3	2173.6	2179.9
22.5°	2072.7	2081.1	2102.1	2127.3	2137.9
25°	2011.7	2028.5	2049.6	2083.2	2089.5
27.5°	1950.8	1965.5	1992.8	2028.5	2037.0
30°	1879.3	1902.4	1936.1	1971.8	1980.2
32.5°	1809.9	1833.1	1873.0	1910.8	1921.3
35°	1738.5	1759.5	1801.5	1845.7	1858.3
37.5°	1656.5	1683.8	1730.0	1774.2	1786.8
40°	1570.3	1603.9	1656.5	1702.7	1717.4
42.5°	1488.3	1524.0	1576.6	1627.0	1643.9
45°	1402.1	1435.7	1498.8	1555.6	1568.2
47.5°	1313.8	1351.7	1418.9	1475.7	1496.7
50°	1225.5	1265.5	1336.9	1395.8	1408.4
52.5°	1137.2	1179.3	1255.0	1318.0	1324.3
55°	1044.8	1091.0	1170.9	1231.8	1244.5
57.5°	960.7	1000.6	1086.8	1149.9	1164.6
60°	868.2	912.3	1004.8	1063.7	1082.6
62.5°	779.9	826.1	922.8	981.7	998.5
65°	687.4	739.9	834.5	903.9	920.7
67.5°	607.5	658.0	758.9	826.1	843.0
70°	515.0	571.8	679.0	748.4	765.2
72.5°	435.1	494.0	601.2	668.5	693.7
75°	349.0	416.2	523.4	594.9	611.7
77.5°	264.9	342.6	452.0	506.6	506.6
80°	189.2	271.2	372.1	397.3	401.5
82.5°	124.0	203.9	275.4	273.3	273.3
85°	71.5	132.4	164.0	159.8	159.8
87.5°	27.3	54.7	58.9	58.9	56.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)