

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: P311151

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-CP187-W2A-U-4500K**

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: P311151
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-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4500K 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: 6551.0 lumens
Efficiency: N/A
Efficacy: 102.4 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

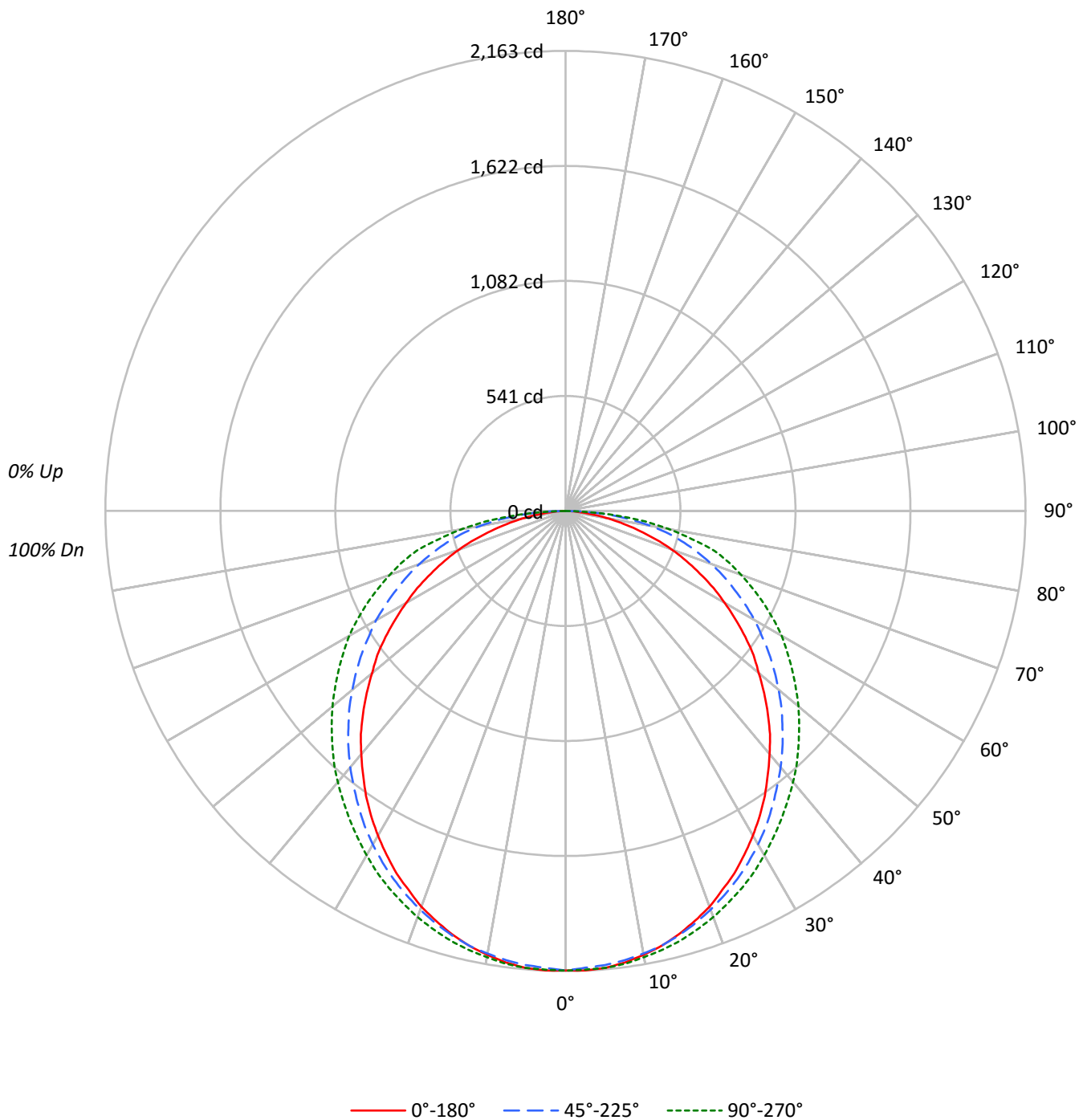
Input Watts (W): 64
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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°	2907	2907	2907
5°	2912	2895	2912
10°	2895	2886	2910
15°	2870	2876	2913
20°	2835	2857	2910
25°	2791	2836	2907
30°	2739	2813	2904
35°	2685	2785	2906
40°	2623	2764	2924
45°	2560	2746	2949
50°	2484	2739	2994
55°	2422	2743	3054
60°	2328	2767	3158
65°	2221	2796	3273
70°	2103	2882	3454
75°	1876	3006	3774
80°	1600	3183	3856
85°	1141	3154	3691



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.5	3.1
10°-20°	584.6	8.9
20°-30°	883.0	13.5
30°-40°	1064.3	16.2
40°-50°	1117.3	17.1
50°-60°	1045.3	16.0
60°-70°	863.2	13.2
70°-80°	588.2	9.0
80°-90°	200.6	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°	1672.1	25.5
0°-40°	2736.4	41.8
0°-60°	4899.0	74.8
0°-90°	6551.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6551.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2160	2160	2160	2160	2160	
5°	2156	2154	2143	2156	2156	205
15°	2060	2063	2065	2087	2091	581
25°	1880	1889	1910	1948	1958	865
35°	1634	1652	1695	1752	1769	1021
45°	1345	1374	1443	1522	1550	1038
55°	1032	1074	1169	1265	1302	921
65°	698	756	878	989	1028	692
75°	361	443	578	687	726	385
85°	74	146	204	230	239	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2160.5	2160.5	2160.5	2160.5	2160.5
2.5°	2162.6	2160.5	2149.6	2160.5	2158.3
5°	2156.1	2153.9	2143.1	2156.1	2156.1
7.5°	2140.9	2140.9	2130.0	2145.2	2147.4
10°	2119.2	2119.2	2112.6	2130.0	2130.0
12.5°	2093.1	2093.1	2093.1	2110.5	2112.6
15°	2060.5	2062.7	2064.8	2086.6	2090.9
17.5°	2021.4	2025.7	2032.2	2058.3	2062.7
20°	1980.1	1984.4	1995.3	2025.7	2032.2
22.5°	1927.9	1938.8	1954.0	1988.8	1995.3
25°	1880.1	1888.8	1910.5	1947.5	1958.3
27.5°	1821.4	1834.4	1862.7	1901.8	1917.0
30°	1762.7	1775.8	1810.5	1856.2	1869.2
32.5°	1699.7	1719.2	1756.2	1804.0	1819.2
35°	1634.5	1651.9	1695.3	1751.8	1769.2
37.5°	1562.7	1586.7	1634.5	1695.3	1717.1
40°	1493.2	1519.3	1573.6	1638.8	1664.9
42.5°	1423.6	1449.7	1510.6	1584.5	1610.6
45°	1345.4	1373.7	1443.2	1521.5	1549.7
47.5°	1267.2	1301.9	1378.0	1460.6	1491.0
50°	1186.7	1225.9	1308.4	1395.4	1430.2
52.5°	1115.0	1152.0	1238.9	1332.4	1365.0
55°	1032.4	1073.7	1169.3	1265.0	1301.9
57.5°	947.6	993.3	1095.4	1199.8	1236.7
60°	865.1	915.0	1028.1	1132.4	1173.7
62.5°	784.6	834.6	952.0	1060.7	1102.0
65°	697.7	756.4	878.1	988.9	1028.1
67.5°	615.1	678.1	806.4	915.0	954.2
70°	534.7	595.5	732.5	839.0	878.1
72.5°	447.7	517.3	654.2	765.1	806.4
75°	360.8	443.4	578.2	686.8	726.0
77.5°	280.4	365.1	499.9	589.0	608.6
80°	206.5	293.4	410.8	473.8	497.7
82.5°	132.6	219.5	313.0	358.6	378.2
85°	73.9	145.6	204.3	230.4	239.1
87.5°	30.4	63.0	82.6	93.5	93.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)