

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: P311119

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-CP250-W2A-U-6500K**

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: P311119
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-CP250-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" POLYCARB SHEET
Light Source: (336) 6500K 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: 6254.0 lumens
Efficiency: N/A
Efficacy: 103.7 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

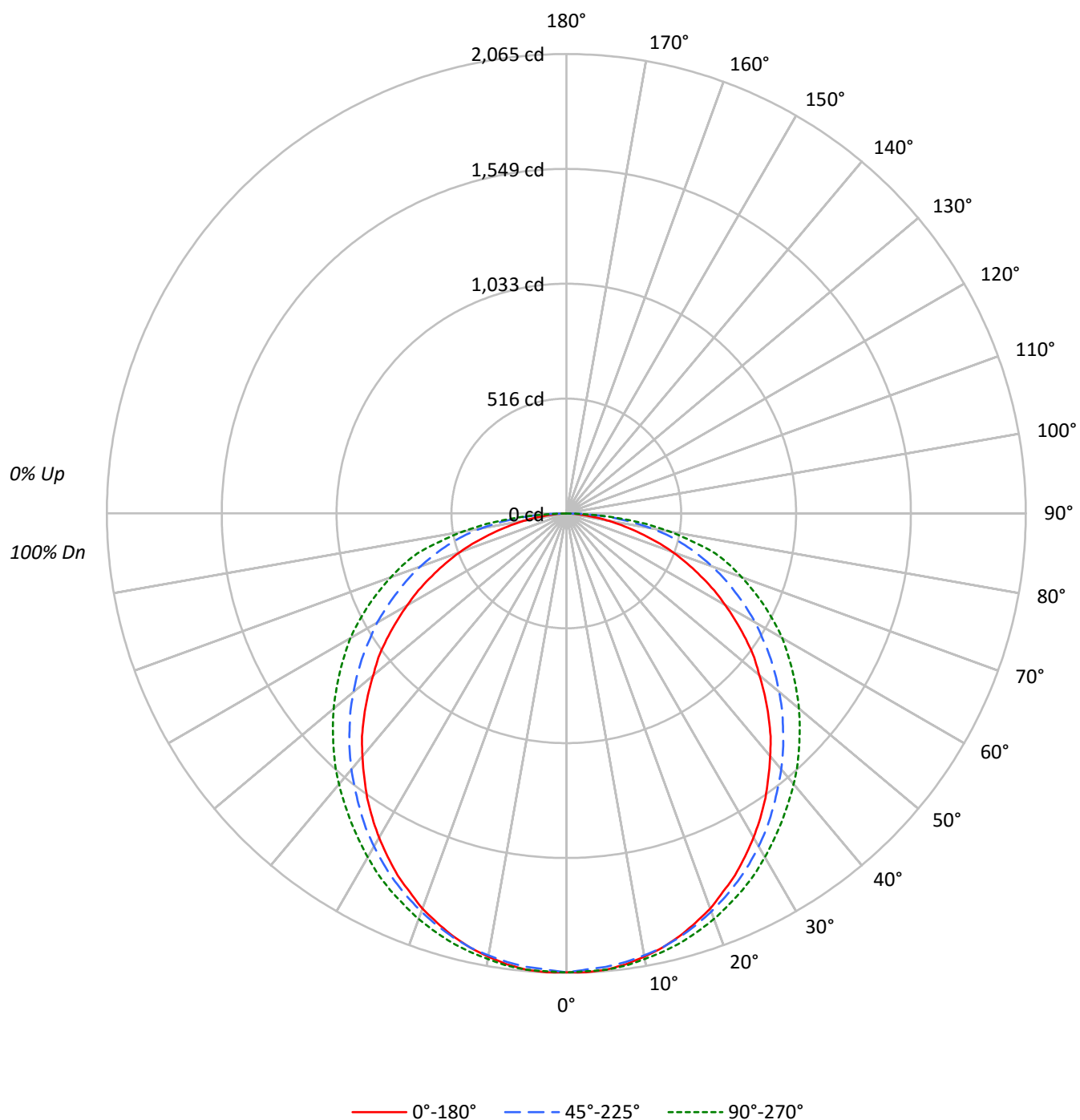
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2775	2775	2775
5°	2780	2763	2780
10°	2764	2756	2778
15°	2740	2746	2780
20°	2707	2727	2778
25°	2665	2708	2775
30°	2614	2685	2772
35°	2563	2658	2774
40°	2504	2639	2792
45°	2444	2622	2815
50°	2371	2615	2858
55°	2312	2619	2916
60°	2222	2641	3015
65°	2121	2669	3125
70°	2008	2751	3298
75°	1790	2869	3603
80°	1527	3039	3682
85°	1088	3010	3523



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.2	3.1
10°-20°	558.1	8.9
20°-30°	843.0	13.5
30°-40°	1016.0	16.2
40°-50°	1066.6	17.1
50°-60°	997.9	16.0
60°-70°	824.1	13.2
70°-80°	561.5	9.0
80°-90°	191.5	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°	1596.3	25.5
0°-40°	2612.3	41.8
0°-60°	4676.9	74.8
0°-90°	6254.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6254.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2062	2062	2062	2062	2062	
5°	2058	2056	2046	2058	2058	195
15°	1967	1969	1971	1992	1996	554
25°	1795	1803	1824	1859	1870	826
35°	1560	1577	1618	1672	1689	975
45°	1284	1311	1378	1452	1479	991
55°	986	1025	1116	1208	1243	880
65°	666	722	838	944	982	661
75°	344	423	552	656	693	367
85°	70	139	195	220	228	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2062.5	2062.5	2062.5	2062.5	2062.5
2.5°	2064.6	2062.5	2052.1	2062.5	2060.4
5°	2058.4	2056.3	2045.9	2058.4	2058.4
7.5°	2043.8	2043.8	2033.5	2048.0	2050.1
10°	2023.1	2023.1	2016.9	2033.5	2033.5
12.5°	1998.2	1998.2	1998.2	2014.8	2016.9
15°	1967.1	1969.1	1971.2	1992.0	1996.1
17.5°	1929.7	1933.9	1940.1	1965.0	1969.1
20°	1890.3	1894.4	1904.8	1933.9	1940.1
22.5°	1840.5	1850.9	1865.4	1898.6	1904.8
25°	1794.8	1803.1	1823.9	1859.2	1869.5
27.5°	1738.8	1751.3	1778.2	1815.6	1830.1
30°	1682.8	1695.2	1728.4	1772.0	1784.5
32.5°	1622.6	1641.3	1676.6	1722.2	1736.7
35°	1560.4	1577.0	1618.5	1672.4	1689.0
37.5°	1491.9	1514.7	1560.4	1618.5	1639.2
40°	1425.5	1450.4	1502.3	1564.5	1589.4
42.5°	1359.1	1384.0	1442.1	1512.6	1537.5
45°	1284.4	1311.4	1377.8	1452.5	1479.4
47.5°	1209.7	1242.9	1315.5	1394.4	1423.4
50°	1132.9	1170.3	1249.1	1332.1	1365.3
52.5°	1064.5	1099.7	1182.7	1272.0	1303.1
55°	985.6	1025.0	1116.3	1207.6	1242.9
57.5°	904.7	948.3	1045.8	1145.4	1180.7
60°	825.8	873.6	981.5	1081.1	1120.5
62.5°	749.1	796.8	908.8	1012.6	1052.0
65°	666.1	722.1	838.3	944.1	981.5
67.5°	587.2	647.4	769.8	873.6	910.9
70°	510.4	568.5	699.3	800.9	838.3
72.5°	427.4	493.8	624.6	730.4	769.8
75°	344.4	423.3	551.9	655.7	693.0
77.5°	267.7	348.6	477.2	562.3	581.0
80°	197.1	280.1	392.2	452.3	475.2
82.5°	126.6	209.6	298.8	342.4	361.0
85°	70.5	139.0	195.0	219.9	228.2
87.5°	29.0	60.2	78.8	89.2	89.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)