

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: P311668

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-S-CA08-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: P311668
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: 24FCZ2-60HE-UNV-L82765-S-CA08-W2A-U-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 6057.0 lumens
Efficiency: N/A
Efficacy: 121.9 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

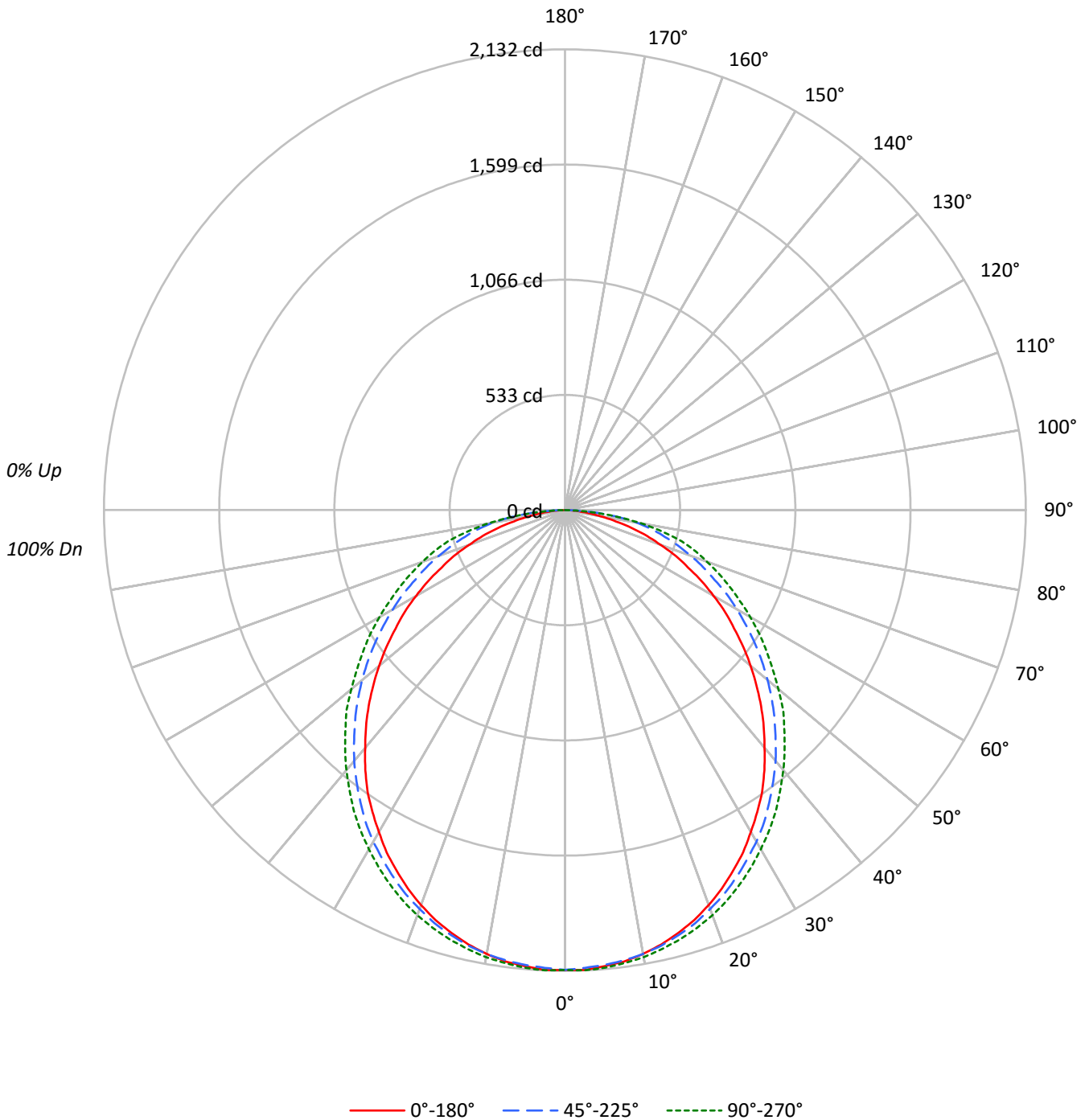
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2863	2863	2863
5°	2861	2853	2871
10°	2849	2849	2870
15°	2822	2835	2865
20°	2785	2813	2857
25°	2733	2785	2839
30°	2672	2753	2816
35°	2613	2708	2794
40°	2524	2663	2761
45°	2442	2610	2731
50°	2348	2561	2698
55°	2243	2514	2672
60°	2138	2475	2666
65°	2003	2432	2683
70°	1854	2445	2755
75°	1660	2491	2911
80°	1342	2638	2848
85°	1010	2317	2257



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.4	3.3
10°-20°	575.6	9.5
20°-30°	865.3	14.3
30°-40°	1030.7	17.0
40°-50°	1054.8	17.4
50°-60°	949.7	15.7
60°-70°	745.8	12.3
70°-80°	484.0	8.0
80°-90°	149.7	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°	1642.3	27.1
0°-40°	2673.0	44.1
0°-60°	4677.5	77.2
0°-90°	6057.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6057.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2128	2128	2128	2128	2128	
5°	2118	2122	2112	2124	2126	201
15°	2026	2032	2036	2053	2057	571
25°	1841	1857	1876	1907	1912	848
35°	1591	1610	1649	1689	1701	993
45°	1283	1314	1372	1424	1435	989
55°	956	998	1072	1127	1139	857
65°	629	677	764	827	843	626
75°	319	381	479	544	560	338
85°	65	121	150	146	146	79
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2127.9	2127.9	2127.9	2127.9	2127.9
2.5°	2129.8	2129.8	2120.2	2129.8	2131.7
5°	2118.2	2122.1	2112.5	2124.0	2125.9
7.5°	2106.7	2106.7	2100.9	2112.5	2114.4
10°	2085.5	2087.5	2085.5	2099.0	2100.9
12.5°	2058.6	2062.5	2064.4	2077.8	2079.8
15°	2025.9	2031.7	2035.5	2052.8	2056.7
17.5°	1989.3	1995.1	2004.7	2024.0	2027.8
20°	1945.1	1952.8	1964.3	1989.3	1995.1
22.5°	1897.0	1904.7	1923.9	1947.0	1956.6
25°	1841.2	1856.6	1875.8	1906.6	1912.4
27.5°	1785.4	1798.9	1823.9	1856.6	1864.3
30°	1720.0	1741.2	1771.9	1804.6	1812.3
32.5°	1656.5	1677.7	1714.2	1748.8	1758.5
35°	1591.1	1610.3	1648.8	1689.2	1700.8
37.5°	1516.1	1541.1	1583.4	1623.8	1635.3
40°	1437.2	1468.0	1516.1	1558.4	1571.8
42.5°	1362.1	1394.8	1442.9	1489.1	1504.5
45°	1283.3	1314.0	1371.8	1423.7	1435.2
47.5°	1202.5	1237.1	1298.7	1350.6	1369.8
50°	1121.6	1158.2	1223.6	1277.5	1289.0
52.5°	1040.8	1079.3	1148.6	1206.3	1212.1
55°	956.2	998.5	1071.6	1127.4	1139.0
57.5°	879.2	915.8	994.7	1052.4	1065.9
60°	794.6	835.0	919.6	973.5	990.8
62.5°	713.8	756.1	844.6	898.5	913.9
65°	629.1	677.2	763.8	827.3	842.7
67.5°	556.0	602.2	694.5	756.1	771.5
70°	471.4	523.3	621.4	684.9	700.3
72.5°	398.3	452.1	550.2	611.8	634.9
75°	319.4	380.9	479.1	544.5	559.9
77.5°	242.4	313.6	413.6	463.7	463.7
80°	173.2	248.2	340.5	363.6	367.5
82.5°	113.5	186.6	252.0	250.1	250.1
85°	65.4	121.2	150.1	146.2	146.2
87.5°	25.0	50.0	53.9	53.9	51.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)