

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: P309651

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA125-W2A-U-5700K**

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: P309651
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CA125-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC SHEET
Light Source: (336) 5700K 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: 4346.0 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

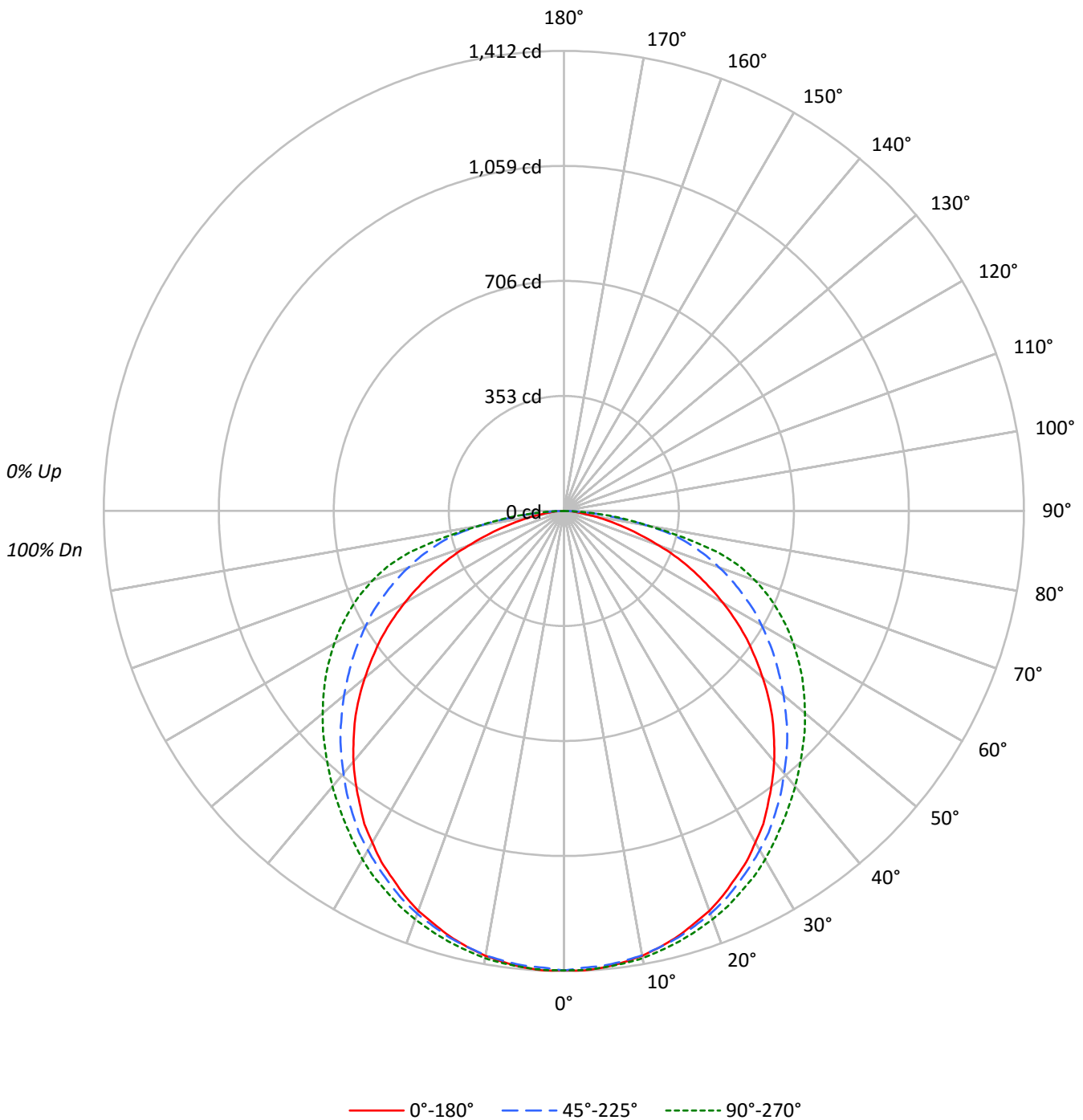
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1897	1897	1897
5°	1900	1892	1900
10°	1894	1892	1904
15°	1883	1888	1906
20°	1871	1884	1910
25°	1848	1875	1912
30°	1826	1868	1919
35°	1796	1859	1922
40°	1764	1847	1940
45°	1724	1845	1970
50°	1668	1843	2022
55°	1609	1857	2095
60°	1518	1885	2189
65°	1402	1929	2311
70°	1224	1997	2462
75°	993	2100	2544
80°	733	2058	2058
85°	562	1516	1714



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	3.1
10°-20°	383.6	8.8
20°-30°	584.0	13.4
30°-40°	709.1	16.3
40°-50°	749.1	17.2
50°-60°	706.9	16.3
60°-70°	587.7	13.5
70°-80°	386.7	8.9
80°-90°	105.4	2.4
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°	1101.1	25.3
0°-40°	1810.2	41.7
0°-60°	3266.2	75.2
0°-90°	4346.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4346.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1410	1410	1410	1410	1410	
5°	1406	1406	1401	1406	1406	134
15°	1352	1354	1356	1368	1368	381
25°	1244	1252	1263	1284	1288	574
35°	1094	1106	1132	1161	1170	685
45°	906	924	970	1017	1035	698
55°	686	715	792	866	893	611
65°	440	491	606	695	726	435
75°	191	278	404	478	489	206
85°	36	80	98	109	111	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1410.1	1410.1	1410.1	1410.1	1410.1
2.5°	1411.9	1410.1	1402.8	1410.1	1410.1
5°	1406.4	1406.4	1401.0	1406.4	1406.4
7.5°	1397.3	1397.3	1393.7	1401.0	1401.0
10°	1386.4	1386.4	1384.6	1393.7	1393.7
12.5°	1370.0	1371.9	1370.0	1381.0	1381.0
15°	1351.8	1353.7	1355.5	1368.2	1368.2
17.5°	1328.2	1331.8	1335.5	1350.0	1351.8
20°	1306.4	1308.2	1315.5	1331.8	1333.6
22.5°	1277.2	1282.7	1291.8	1308.2	1313.6
25°	1244.5	1251.8	1262.7	1284.5	1288.2
27.5°	1213.6	1219.0	1233.6	1257.2	1264.5
30°	1175.4	1184.5	1202.6	1226.3	1235.4
32.5°	1139.0	1148.1	1169.9	1195.4	1202.6
35°	1093.5	1106.2	1131.7	1160.8	1169.9
37.5°	1049.8	1062.6	1093.5	1126.2	1137.1
40°	1004.3	1018.9	1051.6	1089.8	1104.4
42.5°	955.2	975.2	1011.6	1053.5	1069.8
45°	906.1	924.3	969.8	1017.1	1035.3
47.5°	853.3	875.1	924.3	980.7	1002.5
50°	796.9	824.2	880.6	942.5	966.1
52.5°	740.5	771.4	835.1	904.3	929.7
55°	685.9	715.0	791.5	866.1	893.3
57.5°	625.9	662.3	746.0	826.0	853.3
60°	564.0	604.1	700.5	784.2	813.3
62.5°	502.2	547.7	656.8	740.5	771.4
65°	440.3	491.2	605.9	695.0	726.0
67.5°	380.3	436.7	558.6	647.7	678.6
70°	311.1	382.1	507.6	595.0	625.9
72.5°	247.4	329.3	458.5	540.4	567.7
75°	191.0	278.4	403.9	478.5	489.4
77.5°	140.1	227.4	347.5	373.0	374.8
80°	94.6	181.9	265.6	262.0	265.6
82.5°	61.9	136.5	167.4	187.4	189.2
85°	36.4	80.1	98.2	109.2	111.0
87.5°	18.2	27.3	34.6	36.4	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)