

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: P309646

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CA125-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: P309646
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-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" ACRYLIC 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: 4071.0 lumens
Efficiency: N/A
Efficacy: 85.2 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

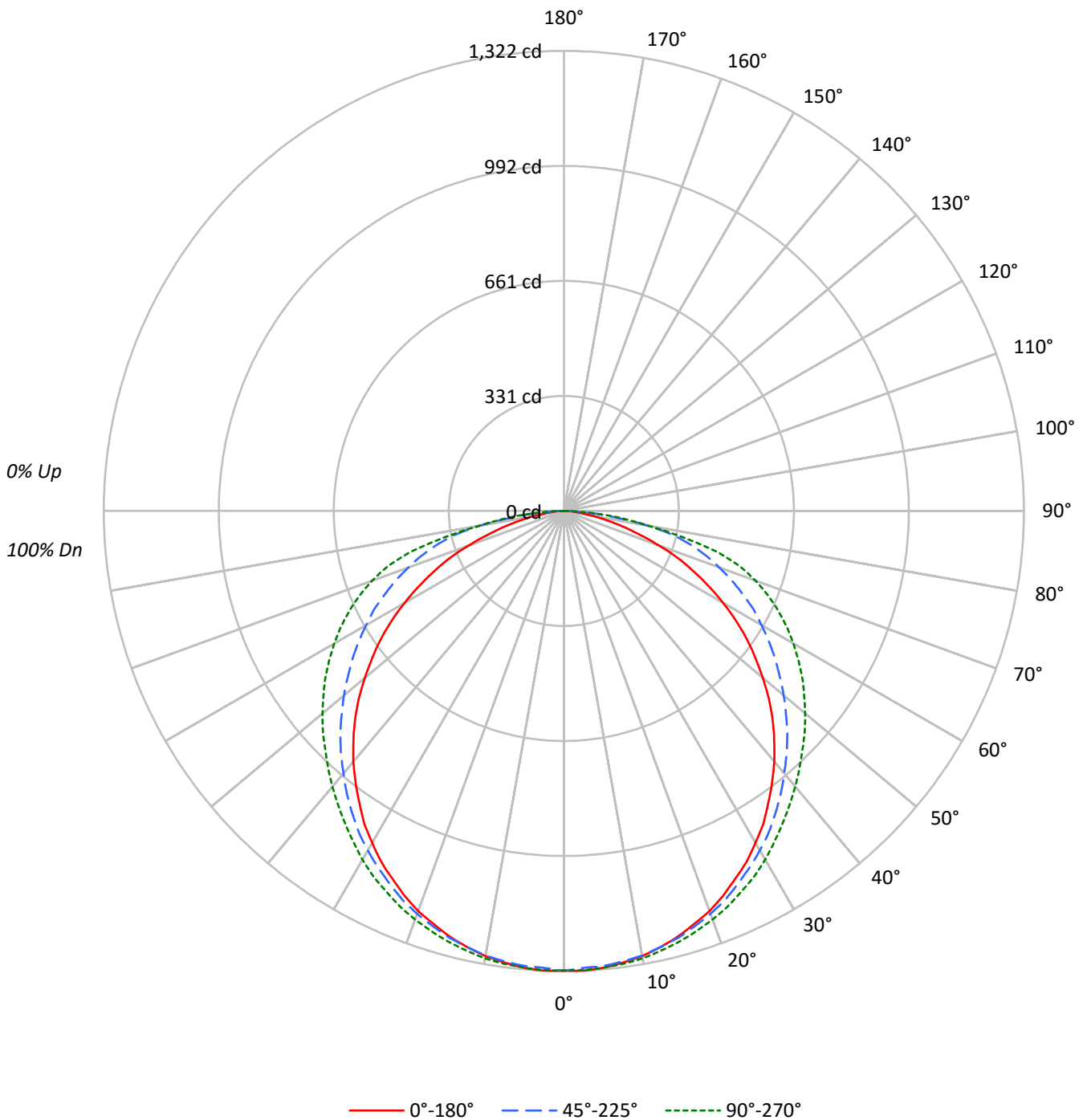
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1777	1777	1777
5°	1779	1772	1779
10°	1774	1772	1784
15°	1764	1769	1785
20°	1752	1764	1789
25°	1731	1756	1791
30°	1711	1750	1798
35°	1682	1741	1800
40°	1652	1730	1817
45°	1615	1729	1845
50°	1563	1727	1894
55°	1507	1739	1963
60°	1422	1766	2050
65°	1313	1807	2165
70°	1146	1871	2306
75°	931	1967	2384
80°	687	1928	1928
85°	526	1420	1606



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.1	3.1
10°-20°	359.3	8.8
20°-30°	547.0	13.4
30°-40°	664.2	16.3
40°-50°	701.7	17.2
50°-60°	662.2	16.3
60°-70°	550.5	13.5
70°-80°	362.2	8.9
80°-90°	98.7	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°	1031.4	25.3
0°-40°	1695.6	41.7
0°-60°	3059.5	75.2
0°-90°	4071.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4071.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1321	1321	1321	1321	1321	
5°	1317	1317	1312	1317	1317	125
15°	1266	1268	1270	1282	1282	357
25°	1166	1173	1183	1203	1207	538
35°	1024	1036	1060	1087	1096	641
45°	849	866	908	953	970	654
55°	642	670	741	811	837	572
65°	412	460	568	651	680	408
75°	179	261	378	448	458	193
85°	34	75	92	102	104	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1320.8	1320.8	1320.8	1320.8	1320.8
2.5°	1322.5	1320.8	1314.0	1320.8	1320.8
5°	1317.4	1317.4	1312.3	1317.4	1317.4
7.5°	1308.9	1308.9	1305.5	1312.3	1312.3
10°	1298.7	1298.7	1297.0	1305.5	1305.5
12.5°	1283.3	1285.0	1283.3	1293.6	1293.6
15°	1266.3	1268.0	1269.7	1281.6	1281.6
17.5°	1244.1	1247.6	1251.0	1264.6	1266.3
20°	1223.7	1225.4	1232.2	1247.6	1249.3
22.5°	1196.4	1201.5	1210.1	1225.4	1230.5
25°	1165.7	1172.6	1182.8	1203.2	1206.7
27.5°	1136.8	1141.9	1155.5	1177.7	1184.5
30°	1101.0	1109.5	1126.5	1148.7	1157.2
32.5°	1066.9	1075.4	1095.9	1119.7	1126.5
35°	1024.3	1036.2	1060.1	1087.3	1095.9
37.5°	983.4	995.3	1024.3	1055.0	1065.2
40°	940.8	954.4	985.1	1020.9	1034.5
42.5°	894.8	913.5	947.6	986.8	1002.1
45°	848.7	865.8	908.4	952.7	969.8
47.5°	799.3	819.8	865.8	918.6	939.1
50°	746.5	772.1	824.9	882.8	905.0
52.5°	693.7	722.6	782.3	847.0	870.9
55°	642.5	669.8	741.4	811.3	836.8
57.5°	586.3	620.4	698.8	773.8	799.3
60°	528.3	565.8	656.2	734.6	761.8
62.5°	470.4	513.0	615.3	693.7	722.6
65°	412.4	460.2	567.5	651.0	680.0
67.5°	356.2	409.0	523.2	606.7	635.7
70°	291.4	357.9	475.5	557.3	586.3
72.5°	231.8	308.5	429.5	506.2	531.7
75°	179.0	260.8	378.4	448.2	458.5
77.5°	131.2	213.0	325.5	349.4	351.1
80°	88.6	170.4	248.8	245.4	248.8
82.5°	57.9	127.8	156.8	175.5	177.2
85°	34.1	75.0	92.0	102.3	104.0
87.5°	17.0	25.6	32.4	34.1	37.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)