

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: P314067

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-CA08-W2A-U-4000K**

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: P314067
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: 24FCZ2-60HE-UNV-L83050-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4000K 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: 5791.0 lumens
Efficiency: N/A
Efficacy: 118.9 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

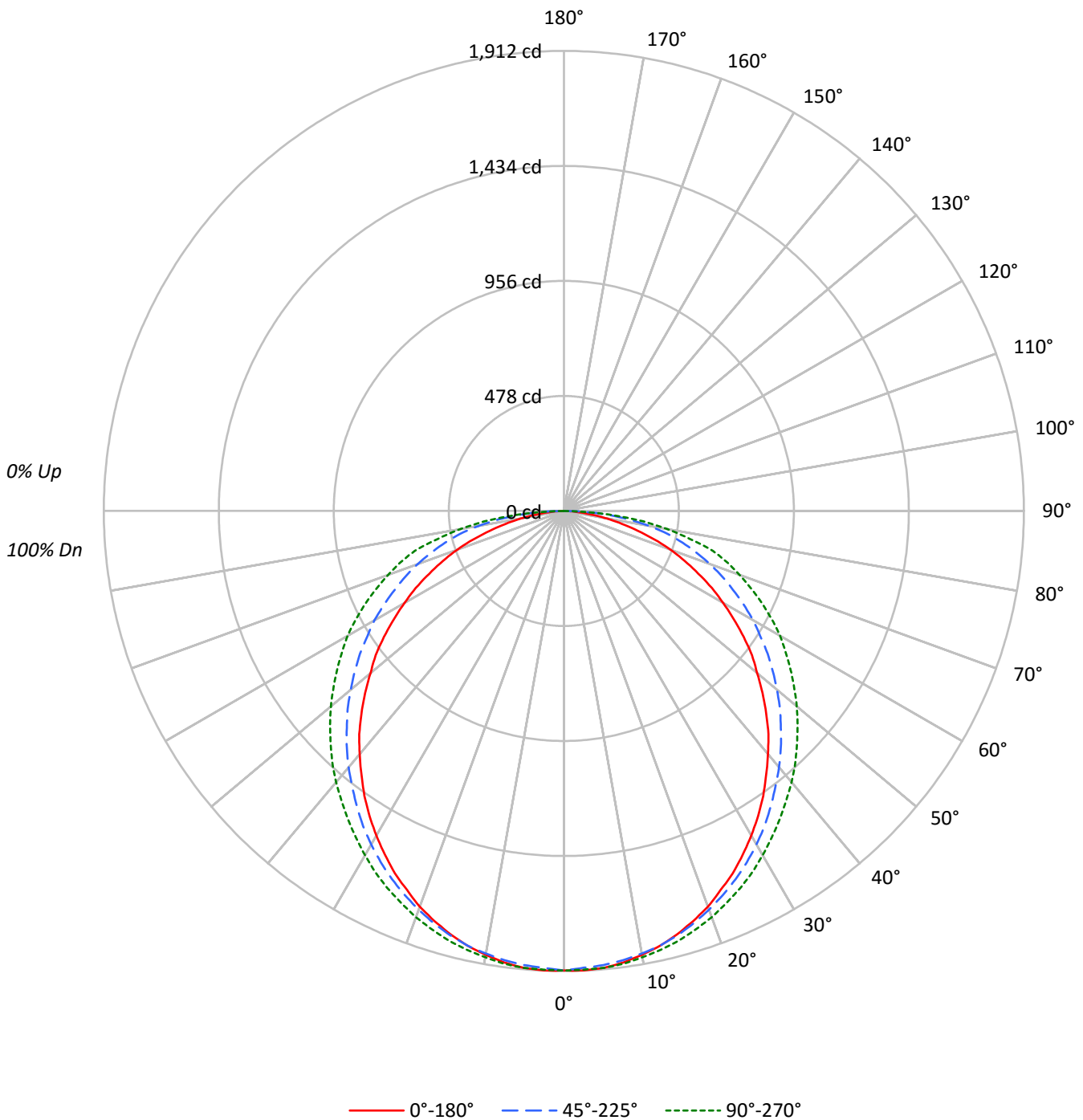
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	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	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2570	2570	2570
5°	2574	2559	2574
10°	2559	2552	2573
15°	2537	2543	2575
20°	2506	2525	2572
25°	2467	2507	2570
30°	2421	2487	2567
35°	2373	2462	2569
40°	2318	2443	2585
45°	2263	2428	2607
50°	2196	2421	2646
55°	2141	2425	2700
60°	2058	2446	2792
65°	1964	2471	2893
70°	1860	2547	3054
75°	1658	2657	3336
80°	1414	2813	3409
85°	1008	2788	3262



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.7	3.1
10°-20°	516.8	8.9
20°-30°	780.6	13.5
30°-40°	940.8	16.2
40°-50°	987.7	17.1
50°-60°	924.0	16.0
60°-70°	763.1	13.2
70°-80°	520.0	9.0
80°-90°	177.3	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°	1478.1	25.5
0°-40°	2419.0	41.8
0°-60°	4330.6	74.8
0°-90°	5791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5791.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1910	1910	1910	1910	1910	
5°	1906	1904	1894	1906	1906	181
15°	1821	1823	1825	1844	1848	513
25°	1662	1670	1689	1722	1731	765
35°	1445	1460	1499	1549	1564	903
45°	1189	1214	1276	1345	1370	917
55°	913	949	1034	1118	1151	815
65°	617	669	776	874	909	612
75°	319	392	511	607	642	340
85°	65	129	181	204	211	82
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1909.8	1909.8	1909.8	1909.8	1909.8
2.5°	1911.7	1909.8	1900.2	1909.8	1907.9
5°	1906.0	1904.1	1894.5	1906.0	1906.0
7.5°	1892.5	1892.5	1882.9	1896.4	1898.3
10°	1873.3	1873.3	1867.6	1882.9	1882.9
12.5°	1850.3	1850.3	1850.3	1865.6	1867.6
15°	1821.4	1823.4	1825.3	1844.5	1848.3
17.5°	1786.9	1790.7	1796.5	1819.5	1823.4
20°	1750.3	1754.2	1763.8	1790.7	1796.5
22.5°	1704.2	1713.8	1727.3	1758.0	1763.8
25°	1662.0	1669.7	1688.9	1721.5	1731.1
27.5°	1610.1	1621.6	1646.6	1681.2	1694.6
30°	1558.2	1569.7	1600.5	1640.8	1652.4
32.5°	1502.5	1519.8	1552.5	1594.7	1608.2
35°	1444.9	1460.2	1498.7	1548.6	1564.0
37.5°	1381.5	1402.6	1444.9	1498.7	1517.9
40°	1320.0	1343.0	1391.1	1448.7	1471.8
42.5°	1258.5	1281.5	1335.3	1400.7	1423.7
45°	1189.3	1214.3	1275.8	1344.9	1369.9
47.5°	1120.1	1150.9	1218.1	1291.1	1318.0
50°	1049.1	1083.6	1156.7	1233.5	1264.2
52.5°	985.7	1018.3	1095.2	1177.8	1206.6
55°	912.6	949.1	1033.7	1118.2	1150.9
57.5°	837.7	878.1	968.4	1060.6	1093.2
60°	764.7	808.9	908.8	1001.0	1037.5
62.5°	693.6	737.8	841.6	937.6	974.1
65°	616.8	668.6	776.2	874.2	908.8
67.5°	543.7	599.5	712.8	808.9	843.5
70°	472.7	526.4	647.5	741.6	776.2
72.5°	395.8	457.3	578.3	676.3	712.8
75°	318.9	392.0	511.1	607.1	641.7
77.5°	247.9	322.8	441.9	520.7	538.0
80°	182.5	259.4	363.1	418.9	440.0
82.5°	117.2	194.1	276.7	317.0	334.3
85°	65.3	128.7	180.6	203.7	211.3
87.5°	26.9	55.7	73.0	82.6	82.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)