

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: P310990

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CA08-W2A-U-5000K**

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: P310990
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-L82765-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K 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: 5679.0 lumens
Efficiency: N/A
Efficacy: 116.6 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

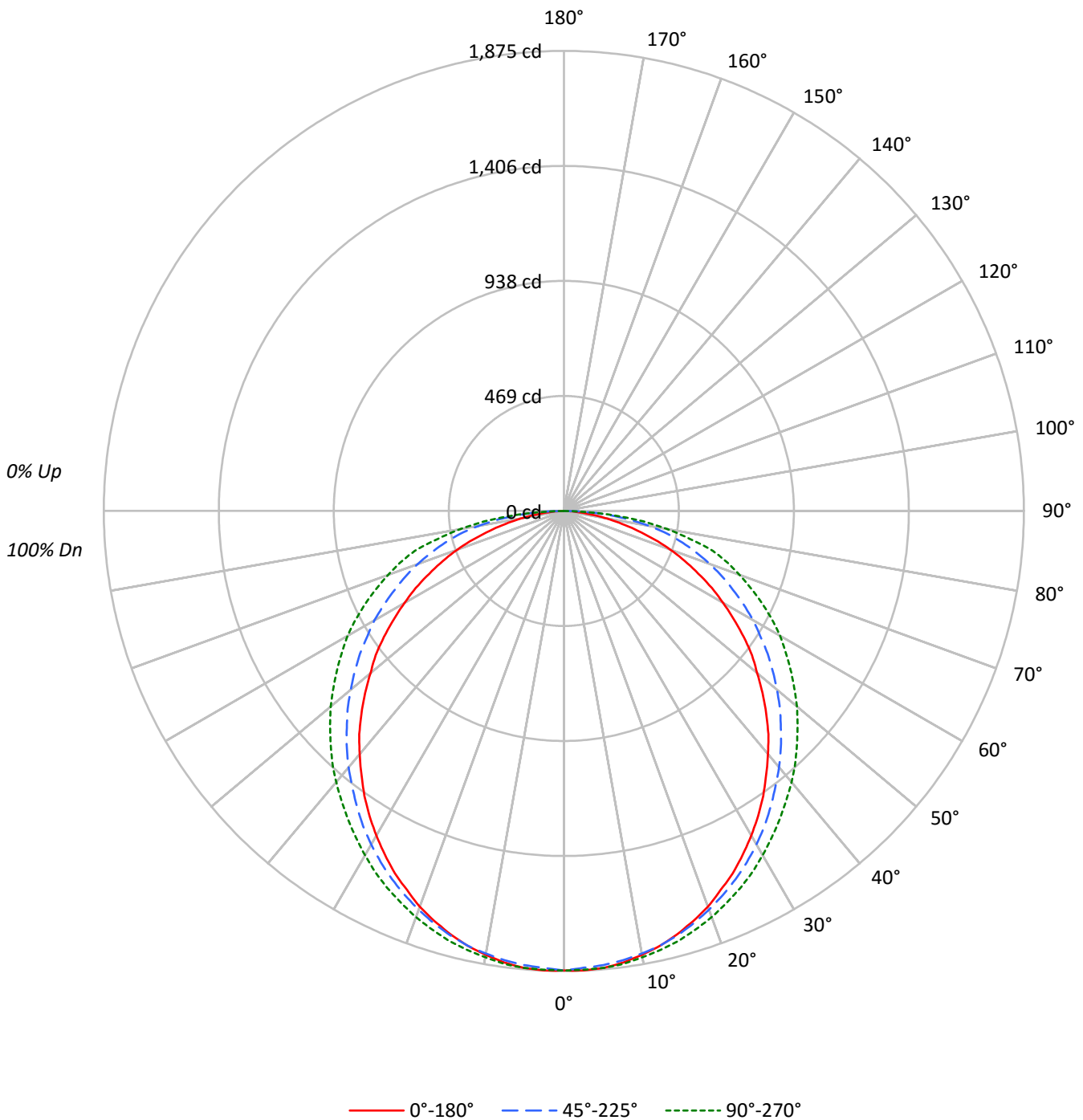
Input Watts (W): 48.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2520	2520	2520
5°	2524	2509	2524
10°	2510	2502	2523
15°	2488	2493	2525
20°	2458	2477	2522
25°	2420	2459	2520
30°	2374	2438	2518
35°	2327	2414	2519
40°	2273	2396	2535
45°	2219	2381	2556
50°	2153	2374	2595
55°	2099	2378	2647
60°	2018	2398	2738
65°	1926	2423	2837
70°	1823	2498	2995
75°	1626	2606	3271
80°	1387	2759	3343
85°	990	2734	3200



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.2	3.1
10°-20°	506.8	8.9
20°-30°	765.5	13.5
30°-40°	922.6	16.2
40°-50°	968.6	17.1
50°-60°	906.1	16.0
60°-70°	748.3	13.2
70°-80°	509.9	9.0
80°-90°	173.9	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°	1449.6	25.5
0°-40°	2372.2	41.8
0°-60°	4246.9	74.8
0°-90°	5679.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5679.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1873	1873	1873	1873	1873	
5°	1869	1867	1858	1869	1869	177
15°	1786	1788	1790	1809	1813	504
25°	1630	1637	1656	1688	1698	750
35°	1417	1432	1470	1519	1534	885
45°	1166	1191	1251	1319	1343	899
55°	895	931	1014	1097	1129	799
65°	605	656	761	857	891	600
75°	313	384	501	595	629	334
85°	64	126	177	200	207	80
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1872.9	1872.9	1872.9	1872.9	1872.9
2.5°	1874.8	1872.9	1863.5	1872.9	1871.0
5°	1869.1	1867.2	1857.8	1869.1	1869.1
7.5°	1855.9	1855.9	1846.5	1859.7	1861.6
10°	1837.1	1837.1	1831.4	1846.5	1846.5
12.5°	1814.5	1814.5	1814.5	1829.5	1831.4
15°	1786.2	1788.1	1790.0	1808.8	1812.6
17.5°	1752.3	1756.1	1761.7	1784.3	1788.1
20°	1716.5	1720.3	1729.7	1756.1	1761.7
22.5°	1671.3	1680.7	1693.9	1724.0	1729.7
25°	1629.8	1637.4	1656.2	1688.2	1697.7
27.5°	1579.0	1590.3	1614.8	1648.7	1661.9
30°	1528.1	1539.4	1569.5	1609.1	1620.4
32.5°	1473.4	1490.4	1522.4	1563.9	1577.1
35°	1416.9	1432.0	1469.7	1518.7	1533.7
37.5°	1354.7	1375.5	1416.9	1469.7	1488.5
40°	1294.4	1317.0	1364.2	1420.7	1443.3
42.5°	1234.1	1256.8	1309.5	1373.6	1396.2
45°	1166.3	1190.8	1251.1	1318.9	1343.4
47.5°	1098.5	1128.6	1194.6	1266.2	1292.6
50°	1028.8	1062.7	1134.3	1209.6	1239.8
52.5°	966.6	998.6	1074.0	1155.0	1183.3
55°	895.0	930.8	1013.7	1096.6	1128.6
57.5°	821.5	861.1	949.6	1040.1	1072.1
60°	749.9	793.2	891.2	981.7	1017.5
62.5°	680.2	723.5	825.3	919.5	955.3
65°	604.8	655.7	761.2	857.3	891.2
67.5°	533.2	587.9	699.0	793.2	827.2
70°	463.5	516.3	635.0	727.3	761.2
72.5°	388.1	448.4	567.1	663.2	699.0
75°	312.8	384.4	501.2	595.4	629.3
77.5°	243.1	316.5	433.4	510.6	527.6
80°	179.0	254.4	356.1	410.8	431.5
82.5°	114.9	190.3	271.3	310.9	327.8
85°	64.1	126.2	177.1	199.7	207.3
87.5°	26.4	54.6	71.6	81.0	81.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)