

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P562059

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562059
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-1HI-40-UNV-81-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4603.0 lumens
Efficiency: N/A
Efficacy: 106.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

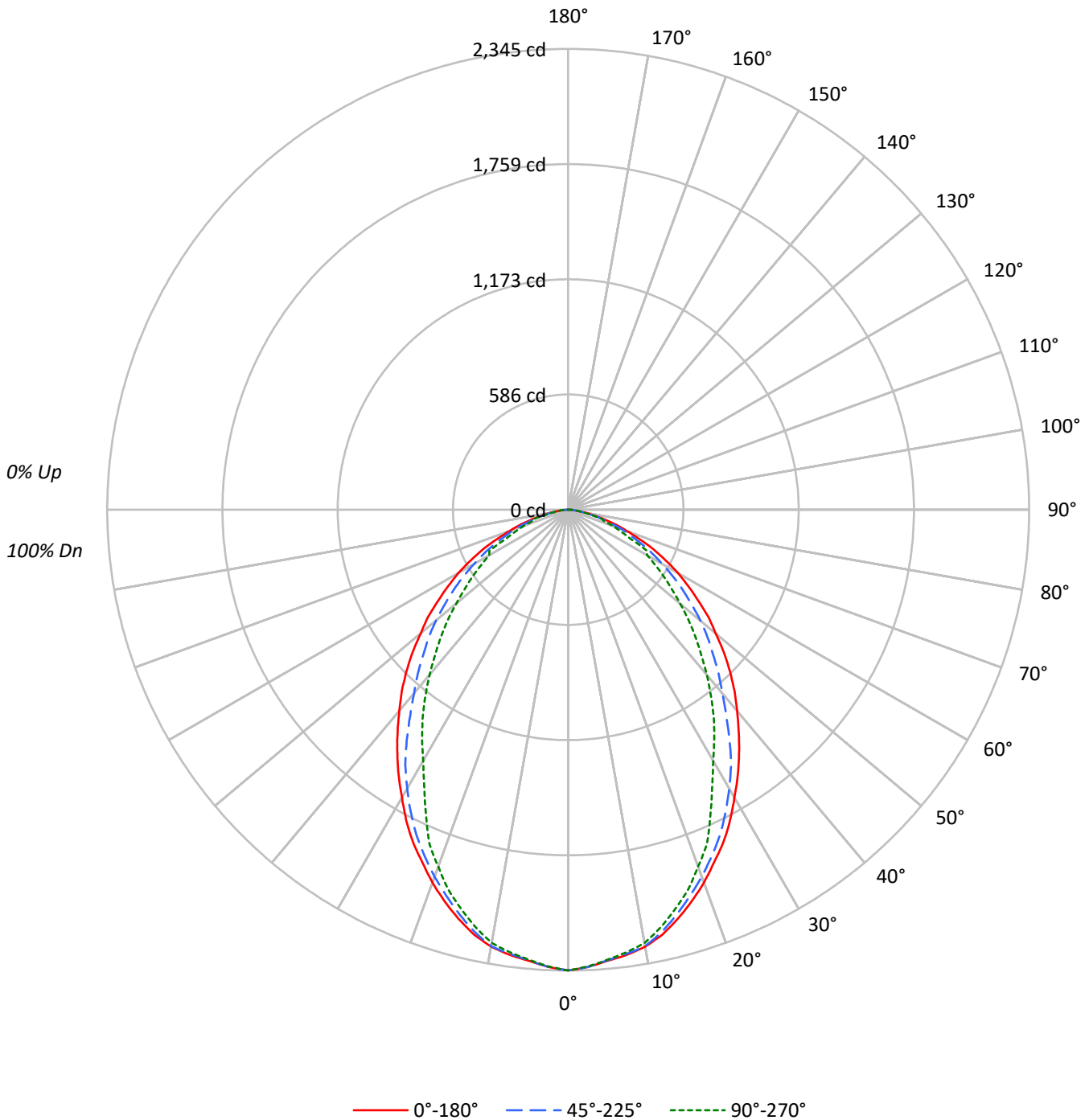
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3155	3155	3155
5°	3112	3108	3105
10°	3085	3081	3059
15°	3002	2972	2930
20°	2891	2845	2767
25°	2773	2712	2543
30°	2628	2544	2291
35°	2489	2351	2119
40°	2347	2142	1928
45°	2213	1981	1743
50°	2048	1838	1555
55°	1895	1666	1392
60°	1736	1488	1247
65°	1528	1303	1105
70°	1258	1141	938
75°	1001	874	916
80°	672	630	588
85°	418	502	585

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2213 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.3	4.7
10°-20°	599.0	13.0
20°-30°	829.3	18.0
30°-40°	884.2	19.2
40°-50°	806.7	17.5
50°-60°	632.0	13.7
60°-70°	411.9	8.9
70°-80°	182.5	4.0
80°-90°	39.2	0.9
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°	1646.5	35.8
0°-40°	2530.8	55.0
0°-60°	3969.4	86.2
0°-90°	4603.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4603.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2345	2345	2345	2345	2345	
5°	2304	2301	2301	2299	2299	219
15°	2155	2155	2133	2112	2104	606
25°	1868	1857	1827	1762	1713	857
35°	1515	1504	1431	1323	1290	947
45°	1163	1138	1041	954	916	896
55°	808	783	710	626	594	724
65°	480	453	409	417	347	473
75°	192	179	168	160	176	206
85°	27	30	32	35	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2344.7	2344.7	2344.7	2344.7	2344.7
2.5°	2328.4	2328.4	2328.4	2325.7	2325.7
5°	2304.0	2301.3	2301.3	2298.6	2298.6
7.5°	2285.1	2282.4	2279.7	2276.9	2271.5
10°	2258.0	2258.0	2255.3	2241.7	2239.0
12.5°	2214.6	2211.9	2201.0	2182.1	2176.6
15°	2155.0	2155.0	2133.3	2111.6	2103.5
17.5°	2089.9	2087.2	2060.1	2038.4	2027.6
20°	2019.4	2014.0	1986.9	1951.7	1932.7
22.5°	1940.8	1940.8	1908.3	1862.2	1843.2
25°	1867.6	1856.8	1827.0	1761.9	1713.1
27.5°	1783.6	1767.3	1734.8	1642.7	1585.7
30°	1691.4	1683.3	1637.2	1518.0	1474.6
32.5°	1604.7	1591.1	1542.4	1417.7	1382.4
35°	1515.2	1504.4	1431.2	1322.8	1290.3
37.5°	1425.8	1412.2	1320.1	1233.3	1192.7
40°	1336.3	1320.1	1219.8	1141.2	1097.8
42.5°	1252.3	1230.6	1133.0	1049.0	1000.2
45°	1162.9	1138.5	1040.9	954.1	916.2
47.5°	1073.4	1051.7	962.3	872.8	829.5
50°	978.5	959.6	878.2	788.8	742.7
52.5°	899.9	870.1	791.5	702.1	664.1
55°	807.8	783.4	710.2	626.2	593.6
57.5°	723.7	699.3	631.6	553.0	525.9
60°	645.1	609.9	553.0	485.2	463.5
62.5°	558.4	531.3	482.5	425.6	452.7
65°	479.8	452.7	409.3	417.4	347.0
67.5°	393.0	379.5	341.5	303.6	292.7
70°	319.9	303.6	290.0	249.4	238.5
72.5°	254.8	238.5	219.6	197.9	189.7
75°	192.5	178.9	168.1	159.9	176.2
77.5°	132.8	127.4	119.3	111.1	108.4
80°	86.7	84.0	81.3	78.6	75.9
82.5°	51.5	51.5	51.5	51.5	51.5
85°	27.1	29.8	32.5	35.2	37.9
87.5°	16.3	16.3	19.0	21.7	24.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)