

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: P562064

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562064
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-82-84-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3778.0 lumens
Efficiency: N/A
Efficacy: 87.5 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

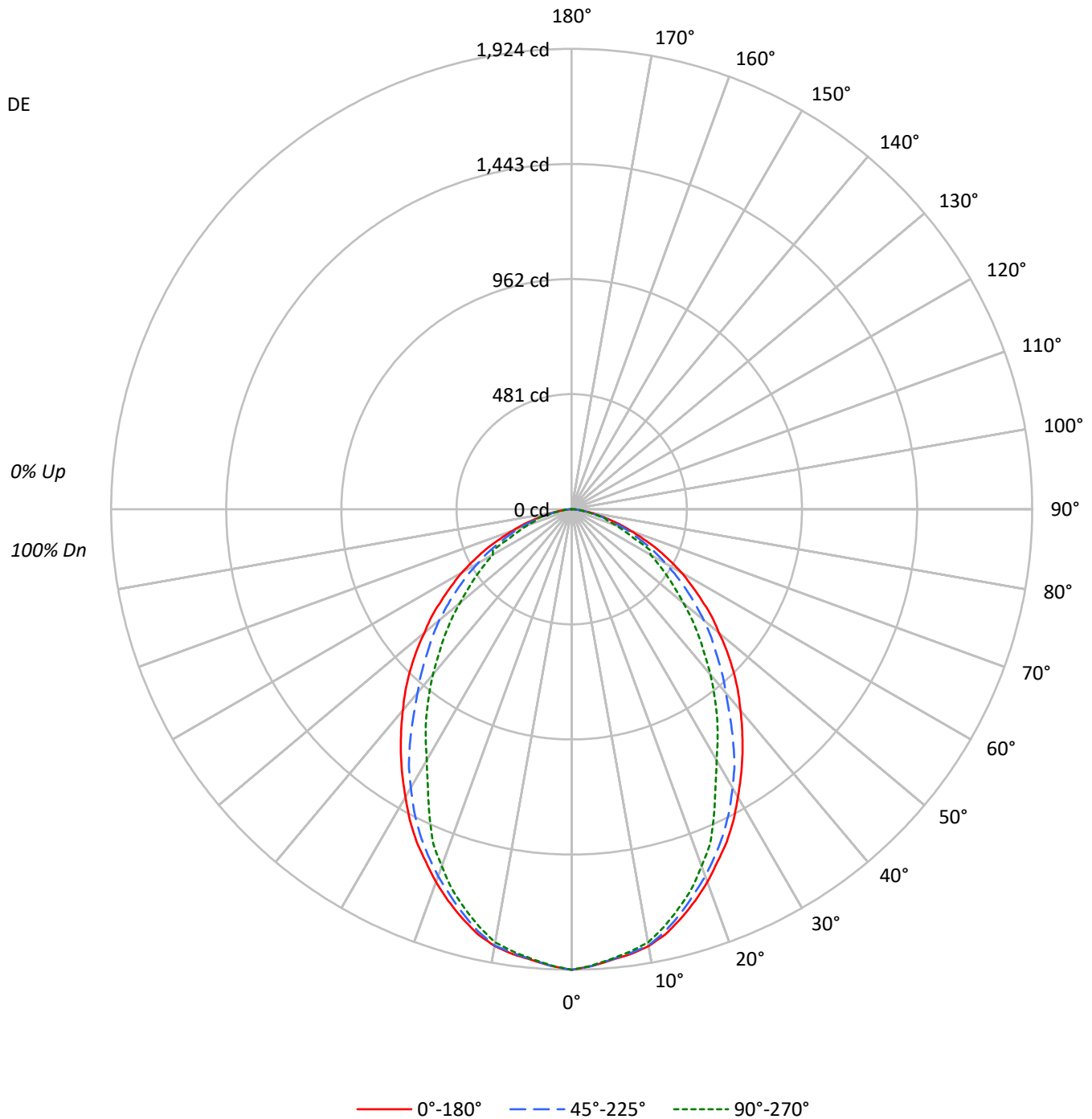
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2589	2589	2589
5°	2554	2551	2548
10°	2532	2529	2511
15°	2464	2439	2405
20°	2373	2335	2271
25°	2276	2226	2087
30°	2157	2088	1880
35°	2043	1929	1739
40°	1926	1759	1583
45°	1816	1626	1431
50°	1681	1509	1276
55°	1555	1367	1143
60°	1425	1221	1024
65°	1254	1069	907
70°	1033	937	770
75°	821	717	752
80°	552	517	483
85°	343	412	480

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1816 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.1	4.7
10°-20°	491.6	13.0
20°-30°	680.6	18.0
30°-40°	725.8	19.2
40°-50°	662.1	17.5
50°-60°	518.7	13.7
60°-70°	338.1	8.9
70°-80°	149.8	4.0
80°-90°	32.2	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°	1351.4	35.8
0°-40°	2077.2	55.0
0°-60°	3258.0	86.2
0°-90°	3778.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3778.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1924	1924	1924	1924	1924	
5°	1891	1889	1889	1887	1887	180
15°	1769	1769	1751	1733	1726	497
25°	1533	1524	1500	1446	1406	704
35°	1244	1235	1175	1086	1059	778
45°	954	934	854	783	752	735
55°	663	643	583	514	487	595
65°	394	372	336	343	285	388
75°	158	147	138	131	145	169
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1924.5	1924.5	1924.5	1924.5	1924.5
2.5°	1911.1	1911.1	1911.1	1908.9	1908.9
5°	1891.1	1888.9	1888.9	1886.6	1886.6
7.5°	1875.5	1873.3	1871.1	1868.8	1864.4
10°	1853.3	1853.3	1851.0	1839.9	1837.7
12.5°	1817.7	1815.4	1806.5	1791.0	1786.5
15°	1768.7	1768.7	1750.9	1733.1	1726.5
17.5°	1715.3	1713.1	1690.9	1673.1	1664.2
20°	1657.5	1653.0	1630.8	1601.9	1586.3
22.5°	1593.0	1593.0	1566.3	1528.4	1512.9
25°	1532.9	1524.0	1499.5	1446.1	1406.1
27.5°	1463.9	1450.6	1423.9	1348.2	1301.5
30°	1388.3	1381.6	1343.8	1245.9	1210.3
32.5°	1317.1	1306.0	1265.9	1163.6	1134.7
35°	1243.7	1234.8	1174.7	1085.7	1059.0
37.5°	1170.3	1159.1	1083.5	1012.3	978.9
40°	1096.8	1083.5	1001.2	936.6	901.0
42.5°	1027.9	1010.1	930.0	861.0	821.0
45°	954.4	934.4	854.3	783.1	752.0
47.5°	881.0	863.2	789.8	716.4	680.8
50°	803.2	787.6	720.8	647.4	609.6
52.5°	738.6	714.2	649.6	576.2	545.1
55°	663.0	643.0	582.9	513.9	487.2
57.5°	594.0	574.0	518.4	453.9	431.6
60°	529.5	500.6	453.9	398.2	380.4
62.5°	458.3	436.1	396.0	349.3	371.5
65°	393.8	371.5	335.9	342.6	284.8
67.5°	322.6	311.5	280.3	249.2	240.3
70°	262.5	249.2	238.1	204.7	195.8
72.5°	209.1	195.8	180.2	162.4	155.7
75°	158.0	146.8	137.9	131.3	144.6
77.5°	109.0	104.6	97.9	91.2	89.0
80°	71.2	69.0	66.7	64.5	62.3
82.5°	42.3	42.3	42.3	42.3	42.3
85°	22.2	24.5	26.7	28.9	31.1
87.5°	13.3	13.3	15.6	17.8	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)