

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: P562053

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562053
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-81-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4451.0 lumens
Efficiency: N/A
Efficacy: 103.0 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

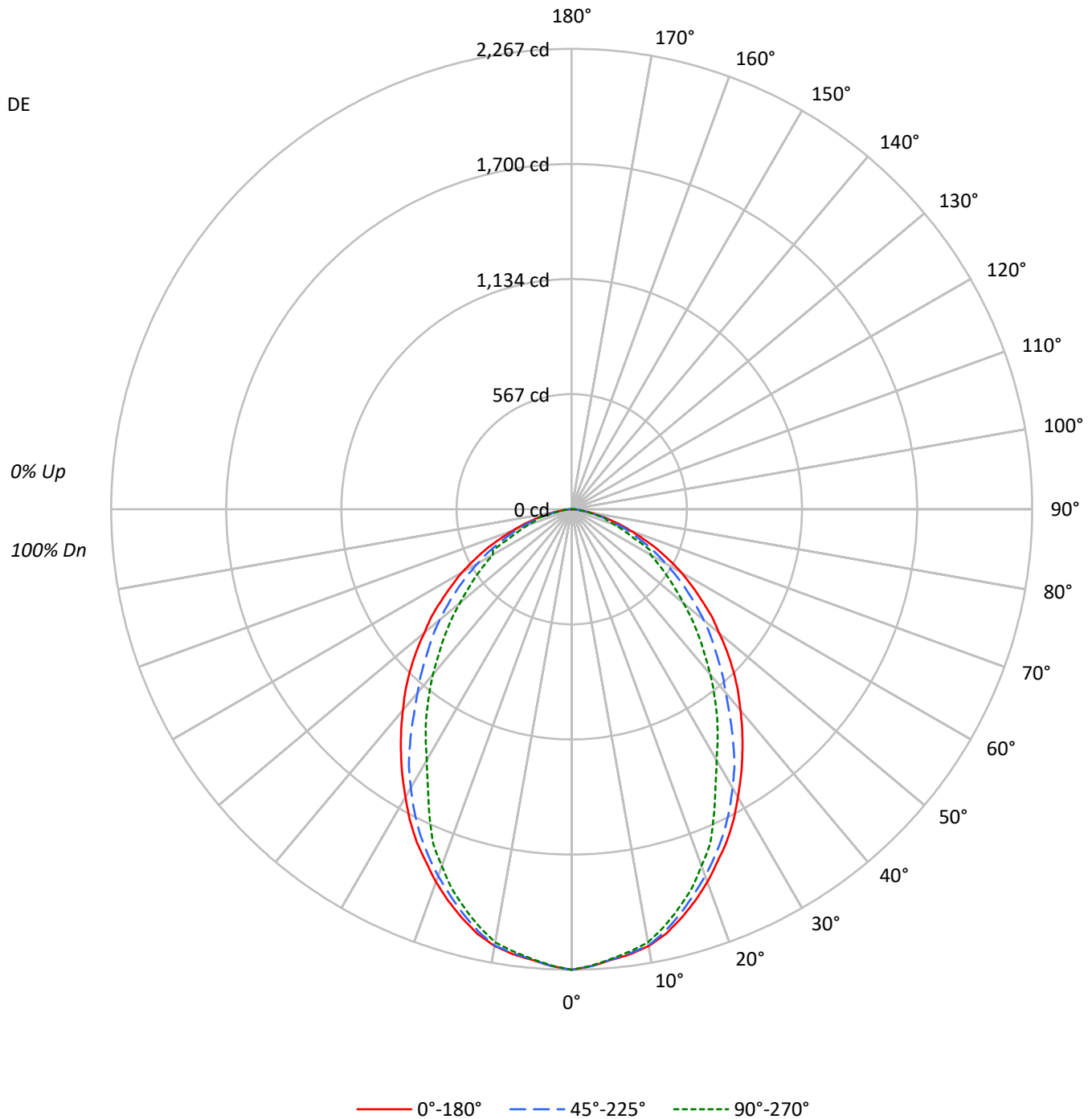
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3051	3051	3051
5°	3009	3006	3002
10°	2983	2980	2958
15°	2903	2873	2833
20°	2796	2751	2676
25°	2681	2623	2459
30°	2541	2460	2215
35°	2407	2273	2049
40°	2270	2072	1865
45°	2140	1915	1686
50°	1981	1778	1503
55°	1832	1611	1346
60°	1679	1439	1206
65°	1477	1260	1068
70°	1217	1103	908
75°	967	845	886
80°	650	609	569
85°	404	486	567

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2140 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.1	4.7
10°-20°	579.2	13.0
20°-30°	801.9	18.0
30°-40°	855.0	19.2
40°-50°	780.0	17.5
50°-60°	611.1	13.7
60°-70°	398.3	8.9
70°-80°	176.5	4.0
80°-90°	37.9	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°	1592.2	35.8
0°-40°	2447.2	55.0
0°-60°	3838.4	86.2
0°-90°	4451.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4451.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2267	2267	2267	2267	2267	
5°	2228	2225	2225	2223	2223	211
15°	2084	2084	2063	2042	2034	586
25°	1806	1796	1767	1704	1657	829
35°	1465	1455	1384	1279	1248	916
45°	1124	1101	1006	923	886	866
55°	781	758	687	606	574	701
65°	464	438	396	404	336	457
75°	186	173	162	155	170	199
85°	26	29	32	34	37	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2267.3	2267.3	2267.3	2267.3	2267.3
2.5°	2251.6	2251.6	2251.6	2248.9	2248.9
5°	2228.0	2225.3	2225.3	2222.7	2222.7
7.5°	2209.6	2207.0	2204.4	2201.8	2196.5
10°	2183.4	2183.4	2180.8	2167.7	2165.1
12.5°	2141.5	2138.8	2128.4	2110.0	2104.8
15°	2083.8	2083.8	2062.8	2041.9	2034.0
17.5°	2020.9	2018.3	1992.1	1971.1	1960.6
20°	1952.7	1947.5	1921.3	1887.2	1868.9
22.5°	1876.7	1876.7	1845.3	1800.7	1782.4
25°	1806.0	1795.5	1766.6	1703.7	1656.6
27.5°	1724.7	1709.0	1677.5	1588.4	1533.4
30°	1635.6	1627.7	1583.2	1467.8	1425.9
32.5°	1551.7	1538.6	1491.4	1370.9	1336.8
35°	1465.2	1454.7	1384.0	1279.1	1247.7
37.5°	1378.7	1365.6	1276.5	1192.6	1153.3
40°	1292.2	1276.5	1179.5	1103.5	1061.6
42.5°	1211.0	1190.0	1095.6	1014.4	967.2
45°	1124.5	1100.9	1006.5	922.6	885.9
47.5°	1038.0	1017.0	930.5	844.0	802.1
50°	946.2	927.9	849.2	762.7	718.2
52.5°	870.2	841.4	765.4	678.9	642.2
55°	781.1	757.5	686.7	605.5	574.0
57.5°	699.8	676.3	610.7	534.7	508.5
60°	623.8	589.8	534.7	469.2	448.2
62.5°	540.0	513.7	466.6	411.5	437.7
65°	463.9	437.7	395.8	403.7	335.5
67.5°	380.1	367.0	330.3	293.6	283.1
70°	309.3	293.6	280.5	241.1	230.7
72.5°	246.4	230.7	212.3	191.3	183.5
75°	186.1	173.0	162.5	154.6	170.4
77.5°	128.4	123.2	115.3	107.5	104.8
80°	83.9	81.3	78.6	76.0	73.4
82.5°	49.8	49.8	49.8	49.8	49.8
85°	26.2	28.8	31.5	34.1	36.7
87.5°	15.7	15.7	18.3	21.0	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)