

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: P561643

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561643
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-12-4-LD4-2LO-40-UNV-93-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

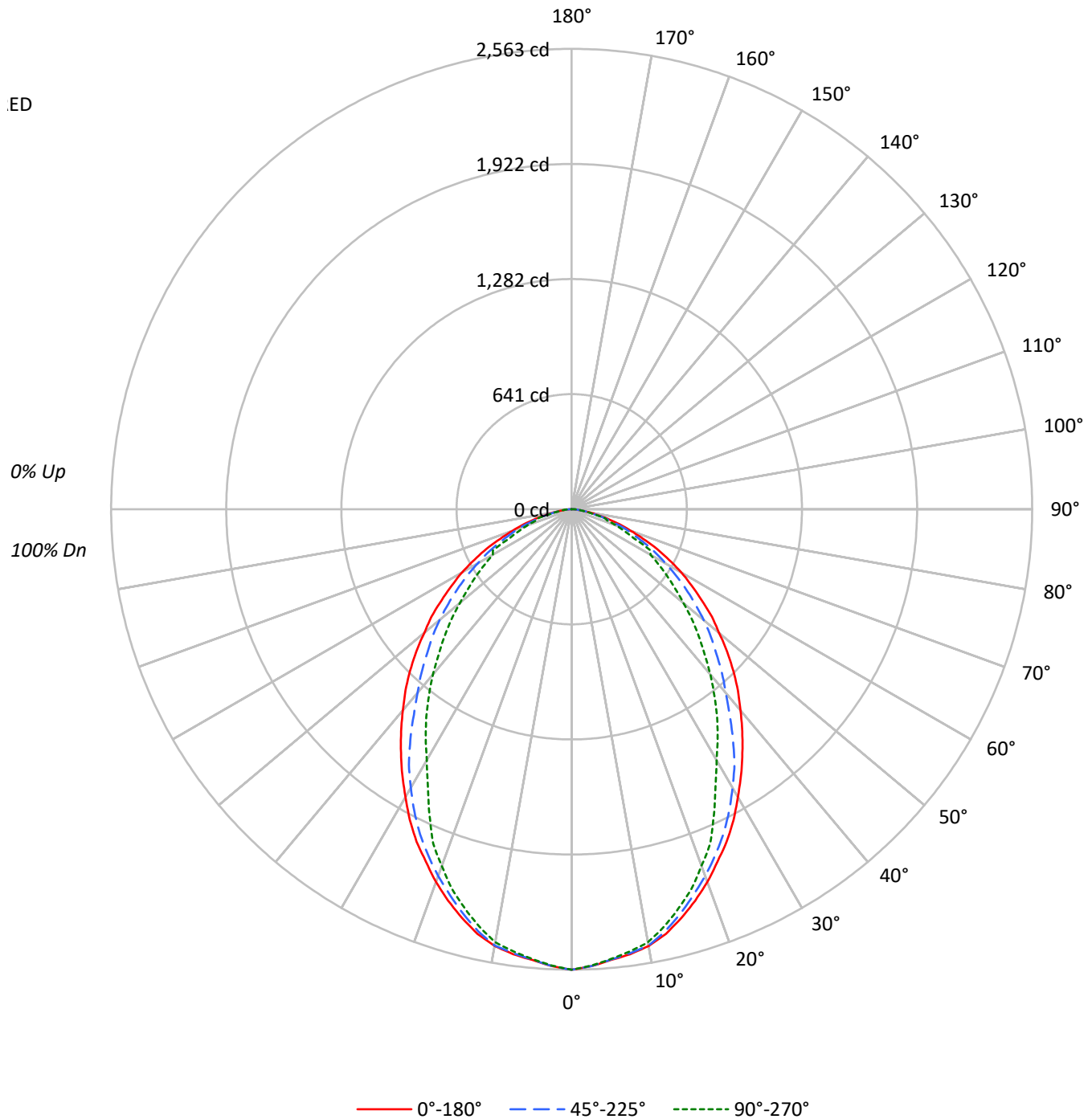
Lumens per Lamp: N/A
Luminaire Lumens: 5032.0 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6898	6898	6898
5°	6804	6796	6788
10°	6745	6737	6688
15°	6563	6497	6406
20°	6322	6220	6050
25°	6062	5930	5561
30°	5746	5561	5009
35°	5442	5140	4634
40°	5132	4684	4216
45°	4838	4330	3812
50°	4478	4019	3399
55°	4143	3643	3045
60°	3796	3253	2727
65°	3340	2849	2415
70°	2751	2495	2052
75°	2188	1910	2002
80°	1469	1378	1286
85°	914	1099	1281

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4838 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.6	4.7
10°-20°	654.8	13.0
20°-30°	906.6	18.0
30°-40°	966.7	19.2
40°-50°	881.9	17.5
50°-60°	690.9	13.7
60°-70°	450.3	8.9
70°-80°	199.5	4.0
80°-90°	42.8	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°	1800.0	35.8
0°-40°	2766.6	55.0
0°-60°	4339.4	86.2
0°-90°	5032.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5032.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2563	2563	2563	2563	2563	
5°	2519	2516	2516	2513	2513	239
15°	2356	2356	2332	2308	2300	662
25°	2042	2030	1997	1926	1873	937
35°	1656	1645	1565	1446	1410	1036
45°	1271	1245	1138	1043	1002	979
55°	883	856	776	684	649	792
65°	524	495	448	456	379	517
75°	210	196	184	175	193	225
85°	30	33	36	38	42	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2563.2	2563.2	2563.2	2563.2	2563.2
2.5°	2545.5	2545.5	2545.5	2542.5	2542.5
5°	2518.8	2515.8	2515.8	2512.9	2512.9
7.5°	2498.0	2495.1	2492.1	2489.2	2483.2
10°	2468.4	2468.4	2465.4	2450.6	2447.7
12.5°	2421.0	2418.0	2406.2	2385.4	2379.5
15°	2355.8	2355.8	2332.1	2308.4	2299.5
17.5°	2284.7	2281.7	2252.1	2228.4	2216.5
20°	2207.6	2201.7	2172.1	2133.6	2112.8
22.5°	2121.7	2121.7	2086.1	2035.8	2015.0
25°	2041.7	2029.8	1997.2	1926.1	1872.8
27.5°	1949.8	1932.1	1896.5	1795.7	1733.5
30°	1849.1	1840.2	1789.8	1659.4	1612.0
32.5°	1754.3	1739.4	1686.1	1549.8	1511.3
35°	1656.5	1644.6	1564.6	1446.1	1410.5
37.5°	1558.7	1543.9	1443.1	1348.3	1303.8
40°	1460.9	1443.1	1333.5	1247.5	1200.1
42.5°	1369.0	1345.3	1238.6	1146.8	1093.4
45°	1271.2	1244.6	1137.9	1043.1	1001.6
47.5°	1173.5	1149.8	1052.0	954.2	906.8
50°	1069.7	1049.0	960.1	862.3	811.9
52.5°	983.8	951.2	865.3	767.5	726.0
55°	883.1	856.4	776.4	684.5	649.0
57.5°	791.2	764.5	690.4	604.5	574.9
60°	705.3	666.7	604.5	530.4	506.7
62.5°	610.4	580.8	527.5	465.2	494.9
65°	524.5	494.9	447.5	456.3	379.3
67.5°	429.7	414.9	373.4	331.9	320.0
70°	349.7	331.9	317.1	272.6	260.8
72.5°	278.5	260.8	240.0	216.3	207.4
75°	210.4	195.6	183.7	174.8	192.6
77.5°	145.2	139.3	130.4	121.5	118.5
80°	94.8	91.9	88.9	85.9	83.0
82.5°	56.3	56.3	56.3	56.3	56.3
85°	29.6	32.6	35.6	38.5	41.5
87.5°	17.8	17.8	20.7	23.7	26.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)