

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: P563143

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563143
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-LD4-3HI-40-UNV-81-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12919.0 lumens
Efficiency: N/A
Efficacy: 99.7 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

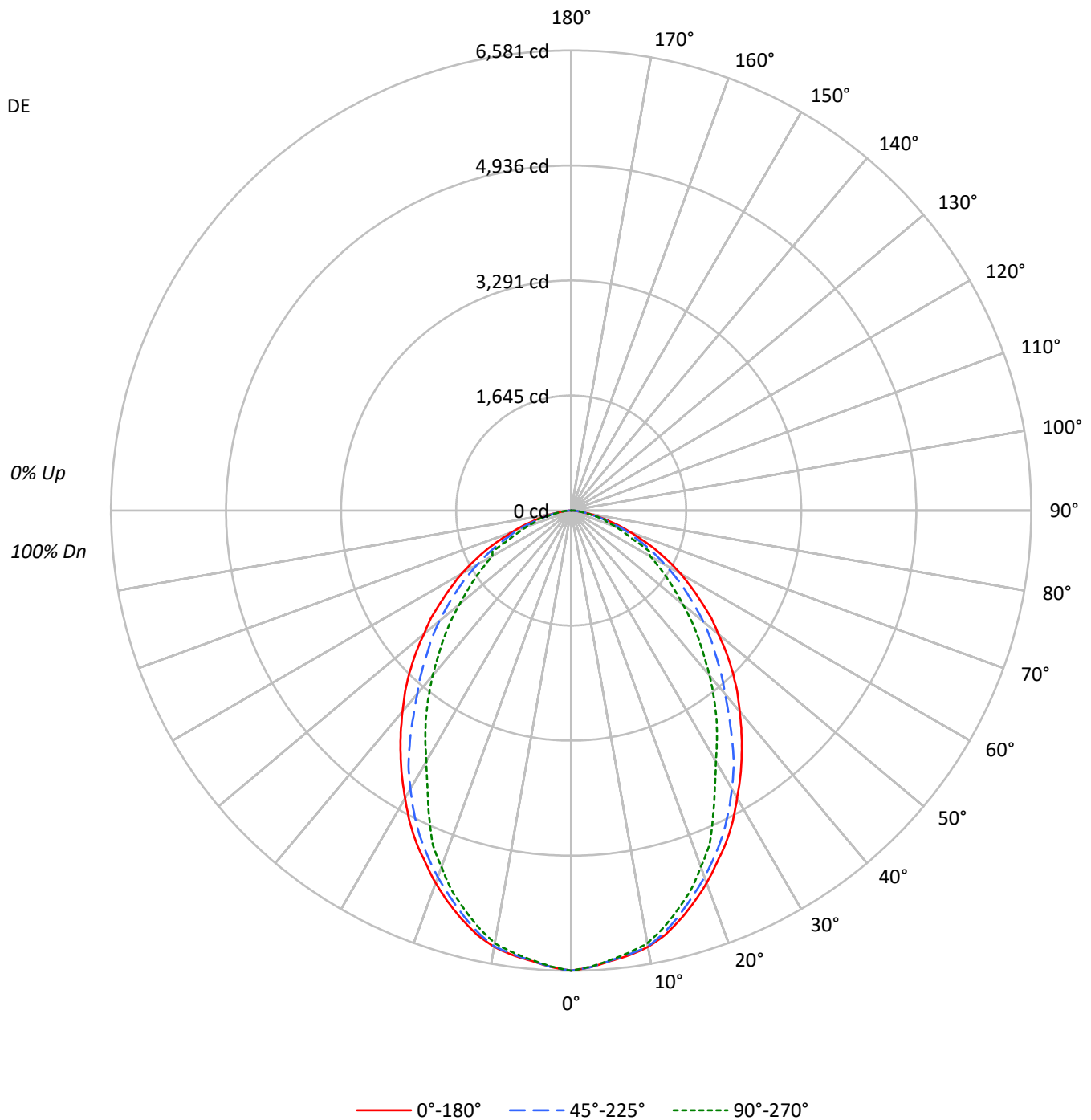
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8854	8854	8854
5°	8734	8724	8713
10°	8658	8648	8586
15°	8425	8340	8224
20°	8115	7985	7767
25°	7782	7612	7138
30°	7376	7139	6430
35°	6985	6598	5948
40°	6588	6013	5412
45°	6210	5559	4893
50°	5749	5160	4363
55°	5318	4676	3908
60°	4873	4176	3501
65°	4287	3657	3100
70°	3532	3202	2634
75°	2808	2452	2571
80°	1887	1768	1650
85°	1175	1409	1644

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6210 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	612.6	4.7
10°-20°	1681.2	13.0
20°-30°	2327.5	18.0
30°-40°	2481.8	19.2
40°-50°	2264.1	17.5
50°-60°	1773.7	13.7
60°-70°	1156.0	8.9
70°-80°	512.2	4.0
80°-90°	110.0	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°	4621.2	35.8
0°-40°	7103.0	55.0
0°-60°	11140.8	86.2
0°-90°	12919.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12919.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6581	6581	6581	6581	6581	
5°	6467	6459	6459	6451	6451	614
15°	6048	6048	5987	5926	5904	1700
25°	5242	5211	5128	4945	4808	2406
35°	4253	4222	4017	3713	3621	2659
45°	3264	3195	2921	2678	2571	2514
55°	2267	2199	1993	1757	1666	2033
65°	1347	1270	1149	1172	974	1327
75°	540	502	472	449	494	579
85°	76	84	91	99	106	106
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6580.8	6580.8	6580.8	6580.8	6580.8
2.5°	6535.1	6535.1	6535.1	6527.5	6527.5
5°	6466.6	6459.0	6459.0	6451.4	6451.4
7.5°	6413.4	6405.8	6398.2	6390.6	6375.4
10°	6337.3	6337.3	6329.7	6291.7	6284.1
12.5°	6215.6	6208.0	6177.6	6124.3	6109.1
15°	6048.2	6048.2	5987.4	5926.5	5903.7
17.5°	5865.6	5858.0	5781.9	5721.1	5690.7
20°	5667.8	5652.6	5576.5	5477.6	5424.4
22.5°	5447.2	5447.2	5355.9	5226.6	5173.3
25°	5241.8	5211.4	5127.7	4945.1	4808.1
27.5°	5005.9	4960.3	4869.0	4610.3	4450.6
30°	4747.3	4724.5	4595.1	4260.4	4138.7
32.5°	4503.8	4465.8	4328.9	3978.9	3880.0
35°	4252.8	4222.3	4016.9	3712.6	3621.3
37.5°	4001.7	3963.7	3705.0	3461.6	3347.4
40°	3750.7	3705.0	3423.5	3202.9	3081.2
42.5°	3514.8	3454.0	3180.1	2944.2	2807.3
45°	3263.8	3195.3	2921.4	2678.0	2571.4
47.5°	3012.7	2951.8	2700.8	2449.7	2328.0
50°	2746.4	2693.2	2464.9	2213.9	2084.5
52.5°	2525.8	2442.1	2221.5	1970.4	1863.9
55°	2267.1	2198.7	1993.2	1757.4	1666.1
57.5°	2031.3	1962.8	1772.6	1552.0	1475.9
60°	1810.7	1711.8	1552.0	1361.8	1300.9
62.5°	1567.2	1491.1	1354.2	1194.4	1270.5
65°	1346.6	1270.5	1148.8	1171.6	973.8
67.5°	1103.1	1065.1	958.6	852.1	821.6
70°	897.7	852.1	814.0	699.9	669.5
72.5°	715.1	669.5	616.2	555.4	532.5
75°	540.2	502.1	471.7	448.9	494.5
77.5°	372.8	357.6	334.7	311.9	304.3
80°	243.5	235.8	228.2	220.6	213.0
82.5°	144.5	144.5	144.5	144.5	144.5
85°	76.1	83.7	91.3	98.9	106.5
87.5°	45.6	45.6	53.3	60.9	68.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)