

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: P563532

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563532
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-LD4-3STD-40-UNV-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9356.0 lumens
Efficiency: N/A
Efficacy: 93.7 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

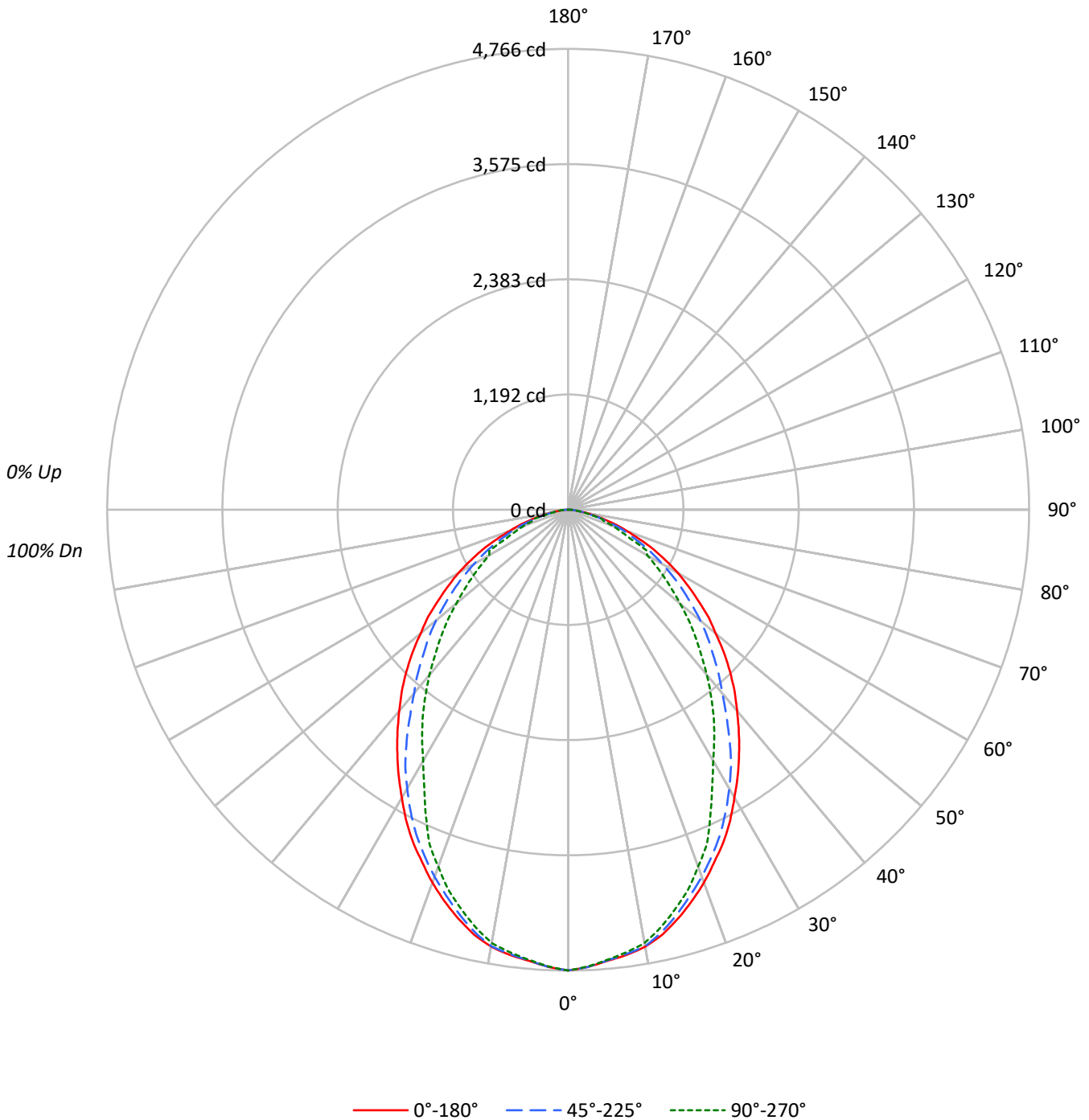
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6412	6412	6412
5°	6325	6318	6310
10°	6270	6263	6218
15°	6101	6040	5956
20°	5877	5783	5625
25°	5636	5513	5169
30°	5341	5170	4657
35°	5059	4778	4308
40°	4771	4355	3919
45°	4497	4026	3544
50°	4163	3737	3160
55°	3852	3386	2830
60°	3529	3025	2535
65°	3105	2649	2245
70°	2557	2319	1907
75°	2034	1776	1862
80°	1366	1281	1196
85°	851	1020	1190

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4497 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	443.6	4.7
10°-20°	1217.5	13.0
20°-30°	1685.6	18.0
30°-40°	1797.3	19.2
40°-50°	1639.7	17.5
50°-60°	1284.6	13.7
60°-70°	837.2	8.9
70°-80°	370.9	4.0
80°-90°	79.6	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°	3346.7	35.8
0°-40°	5144.0	55.0
0°-60°	8068.2	86.2
0°-90°	9356.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9356.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4766	4766	4766	4766	4766	
5°	4683	4678	4678	4672	4672	445
15°	4380	4380	4336	4292	4276	1231
25°	3796	3774	3714	3581	3482	1743
35°	3080	3058	2909	2689	2623	1925
45°	2364	2314	2116	1939	1862	1821
55°	1642	1592	1444	1273	1207	1473
65°	975	920	832	848	705	961
75°	391	364	342	325	358	419
85°	55	61	66	72	77	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4765.8	4765.8	4765.8	4765.8	4765.8
2.5°	4732.8	4732.8	4732.8	4727.3	4727.3
5°	4683.2	4677.7	4677.7	4672.2	4672.2
7.5°	4644.6	4639.1	4633.6	4628.1	4617.1
10°	4589.5	4589.5	4584.0	4556.5	4550.9
12.5°	4501.4	4495.9	4473.8	4435.2	4424.2
15°	4380.1	4380.1	4336.1	4292.0	4275.5
17.5°	4247.9	4242.4	4187.3	4143.2	4121.2
20°	4104.7	4093.6	4038.6	3966.9	3928.4
22.5°	3944.9	3944.9	3878.8	3785.1	3746.5
25°	3796.1	3774.1	3713.5	3581.3	3482.1
27.5°	3625.3	3592.3	3526.2	3338.8	3223.1
30°	3438.0	3421.5	3327.8	3085.4	2997.2
32.5°	3261.7	3234.1	3135.0	2881.5	2809.9
35°	3079.9	3057.8	2909.1	2688.7	2622.6
37.5°	2898.1	2870.5	2683.2	2506.9	2424.2
40°	2716.2	2683.2	2479.3	2319.6	2231.4
42.5°	2545.4	2501.4	2303.0	2132.2	2033.0
45°	2363.6	2314.0	2115.7	1939.4	1862.3
47.5°	2181.8	2137.7	1955.9	1774.1	1685.9
50°	1989.0	1950.4	1785.1	1603.3	1509.6
52.5°	1829.2	1768.6	1608.8	1427.0	1349.9
55°	1641.9	1592.3	1443.5	1272.7	1206.6
57.5°	1471.1	1421.5	1283.7	1124.0	1068.9
60°	1311.3	1239.7	1124.0	986.2	942.1
62.5°	1135.0	1079.9	980.7	865.0	920.1
65°	975.2	920.1	832.0	848.5	705.2
67.5°	798.9	771.3	694.2	617.1	595.0
70°	650.1	617.1	589.5	506.9	484.8
72.5°	517.9	484.8	446.3	402.2	385.7
75°	391.2	363.6	341.6	325.1	358.1
77.5°	270.0	259.0	242.4	225.9	220.4
80°	176.3	170.8	165.3	159.8	154.3
82.5°	104.7	104.7	104.7	104.7	104.7
85°	55.1	60.6	66.1	71.6	77.1
87.5°	33.1	33.1	38.6	44.1	49.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)