

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: P563852

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563852
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-LD4-4LO-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9184.0 lumens
Efficiency: N/A
Efficacy: 98.1 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

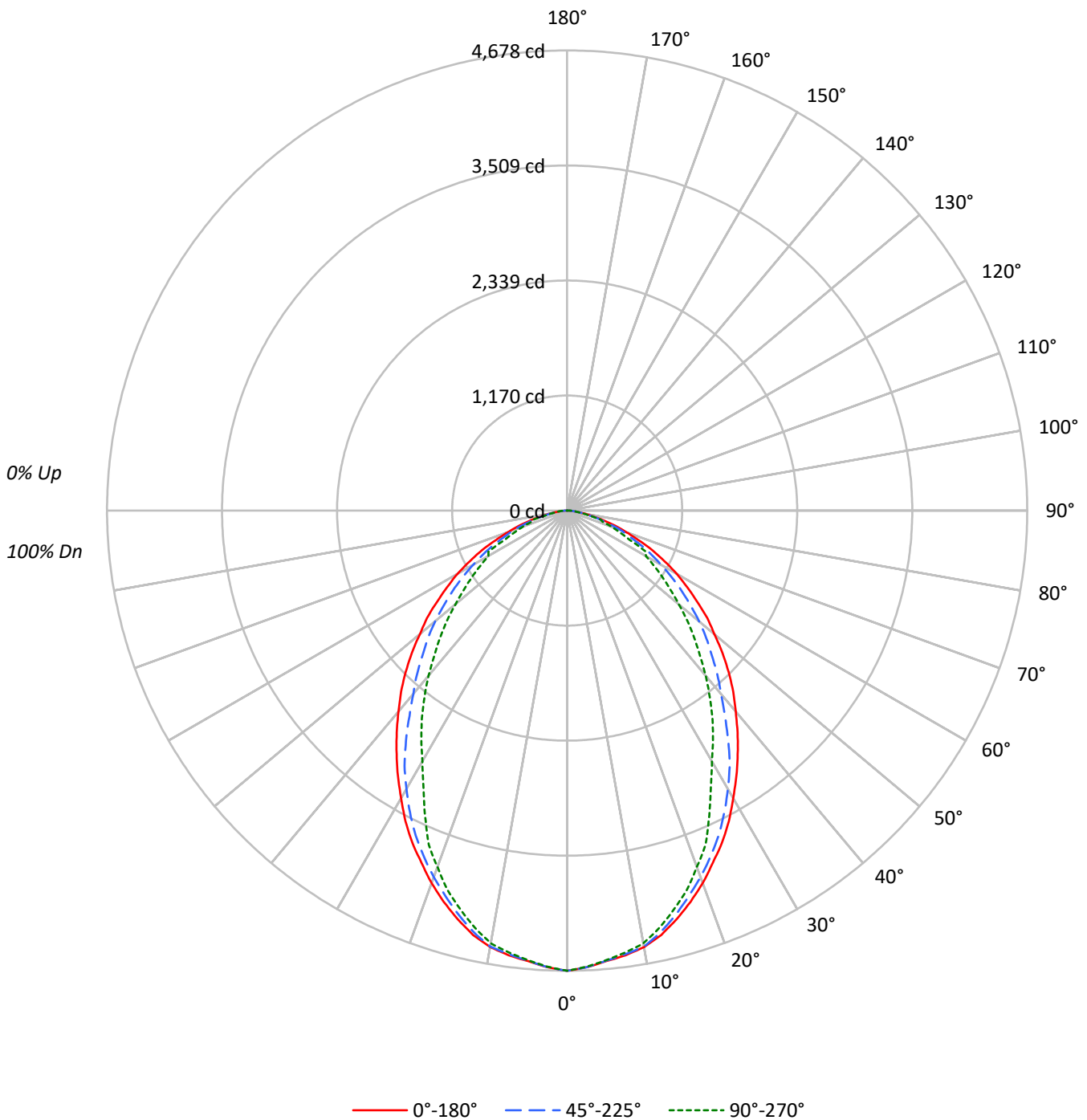
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6294	6294	6294
5°	6209	6202	6194
10°	6155	6148	6103
15°	5989	5929	5846
20°	5769	5676	5521
25°	5532	5412	5074
30°	5243	5075	4571
35°	4966	4690	4229
40°	4683	4275	3847
45°	4415	3952	3478
50°	4087	3668	3102
55°	3781	3324	2778
60°	3464	2969	2489
65°	3048	2600	2204
70°	2511	2277	1872
75°	1996	1743	1827
80°	1341	1257	1173
85°	835	1002	1169

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4415 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	435.5	4.7
10°-20°	1195.1	13.0
20°-30°	1654.6	18.0
30°-40°	1764.3	19.2
40°-50°	1609.5	17.5
50°-60°	1260.9	13.7
60°-70°	821.8	8.9
70°-80°	364.1	4.0
80°-90°	78.2	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°	3285.2	35.8
0°-40°	5049.5	55.0
0°-60°	7919.9	86.2
0°-90°	9184.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9184.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4678	4678	4678	4678	4678	
5°	4597	4592	4592	4586	4586	436
15°	4300	4300	4256	4213	4197	1209
25°	3726	3705	3645	3515	3418	1711
35°	3023	3002	2856	2639	2574	1890
45°	2320	2272	2077	1904	1828	1787
55°	1612	1563	1417	1249	1184	1446
65°	957	903	817	833	692	943
75°	384	357	335	319	352	412
85°	54	60	65	70	76	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4678.2	4678.2	4678.2	4678.2	4678.2
2.5°	4645.8	4645.8	4645.8	4640.3	4640.3
5°	4597.1	4591.7	4591.7	4586.3	4586.3
7.5°	4559.2	4553.8	4548.4	4543.0	4532.2
10°	4505.1	4505.1	4499.7	4472.7	4467.3
12.5°	4418.6	4413.2	4391.6	4353.7	4342.9
15°	4299.6	4299.6	4256.4	4213.1	4196.9
17.5°	4169.8	4164.4	4110.3	4067.1	4045.4
20°	4029.2	4018.4	3964.3	3894.0	3856.1
22.5°	3872.4	3872.4	3807.5	3715.5	3677.7
25°	3726.3	3704.7	3645.2	3515.4	3418.1
27.5°	3558.7	3526.2	3461.3	3277.4	3163.9
30°	3374.8	3358.6	3266.6	3028.7	2942.1
32.5°	3201.7	3174.7	3077.3	2828.6	2758.2
35°	3023.3	3001.6	2855.6	2639.3	2574.4
37.5°	2844.8	2817.7	2633.9	2460.8	2379.7
40°	2666.3	2633.9	2433.7	2276.9	2190.4
42.5°	2498.6	2455.4	2260.7	2093.0	1995.7
45°	2320.2	2271.5	2076.8	1903.7	1828.0
47.5°	2141.7	2098.4	1920.0	1741.5	1654.9
50°	1952.4	1914.5	1752.3	1573.8	1481.9
52.5°	1795.6	1736.1	1579.2	1400.8	1325.0
55°	1611.7	1563.0	1417.0	1249.3	1184.4
57.5°	1444.0	1395.3	1260.1	1103.3	1049.2
60°	1287.2	1216.9	1103.3	968.1	924.8
62.5°	1114.1	1060.0	962.7	849.1	903.2
65°	957.3	903.2	816.7	832.9	692.3
67.5°	784.2	757.2	681.4	605.7	584.1
70°	638.2	605.7	578.7	497.6	475.9
72.5°	508.4	475.9	438.1	394.8	378.6
75°	384.0	356.9	335.3	319.1	351.5
77.5°	265.0	254.2	238.0	221.7	216.3
80°	173.1	167.7	162.2	156.8	151.4
82.5°	102.8	102.8	102.8	102.8	102.8
85°	54.1	59.5	64.9	70.3	75.7
87.5°	32.4	32.4	37.9	43.3	48.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)