

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: P563466

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563466
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-35-UNV-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 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: 9328.0 lumens
Efficiency: N/A
Efficacy: 93.4 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

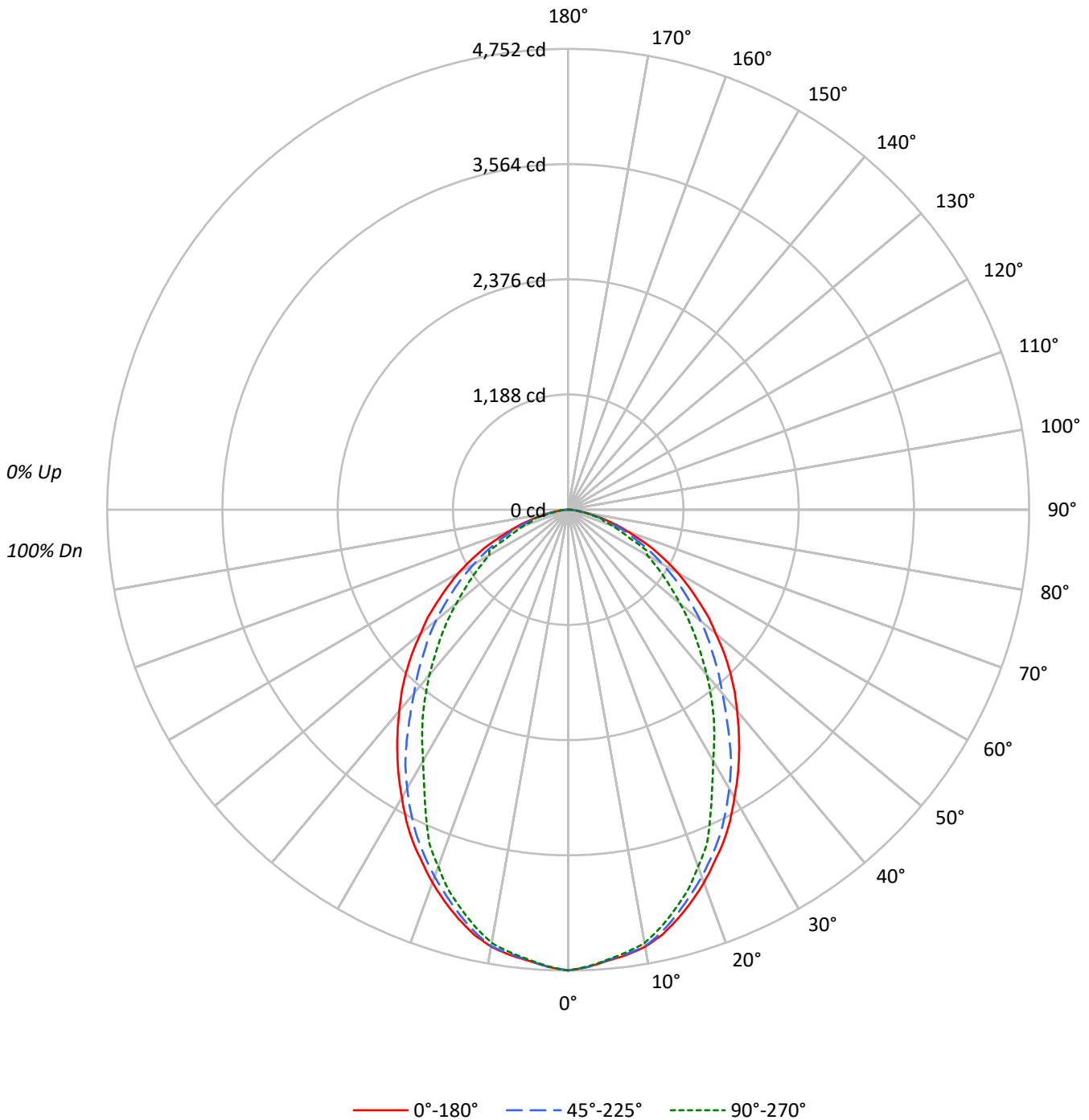
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6393	6393	6393
5°	6306	6299	6291
10°	6252	6244	6199
15°	6083	6022	5938
20°	5860	5765	5608
25°	5619	5497	5154
30°	5325	5155	4643
35°	5044	4764	4295
40°	4757	4342	3907
45°	4484	4014	3533
50°	4151	3725	3150
55°	3840	3376	2822
60°	3518	3016	2528
65°	3096	2641	2238
70°	2550	2312	1902
75°	2027	1771	1856
80°	1362	1277	1192
85°	848	1017	1187

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4484 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	442.3	4.7
10°-20°	1213.9	13.0
20°-30°	1680.5	18.0
30°-40°	1791.9	19.2
40°-50°	1634.8	17.5
50°-60°	1280.7	13.7
60°-70°	834.7	8.9
70°-80°	369.8	4.0
80°-90°	79.4	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°	3336.7	35.8
0°-40°	5128.6	55.0
0°-60°	8044.1	86.2
0°-90°	9328.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9328.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4752	4752	4752	4752	4752	
5°	4669	4664	4664	4658	4658	443
15°	4367	4367	4323	4279	4263	1228
25°	3785	3763	3702	3570	3472	1738
35°	3071	3049	2900	2681	2615	1920
45°	2357	2307	2109	1934	1857	1815
55°	1637	1588	1439	1269	1203	1468
65°	972	917	830	846	703	958
75°	390	362	341	324	357	418
85°	55	60	66	71	77	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4751.6	4751.6	4751.6	4751.6	4751.6
2.5°	4718.6	4718.6	4718.6	4713.1	4713.1
5°	4669.2	4663.7	4663.7	4658.2	4658.2
7.5°	4630.7	4625.2	4619.7	4614.2	4603.2
10°	4575.8	4575.8	4570.3	4542.8	4537.3
12.5°	4487.9	4482.4	4460.4	4422.0	4411.0
15°	4367.0	4367.0	4323.1	4279.1	4262.7
17.5°	4235.2	4229.7	4174.8	4130.8	4108.9
20°	4092.4	4081.4	4026.5	3955.1	3916.6
22.5°	3933.1	3933.1	3867.2	3773.8	3735.3
25°	3784.8	3762.8	3702.4	3570.5	3471.7
27.5°	3614.5	3581.5	3515.6	3328.8	3213.5
30°	3427.7	3411.2	3317.9	3076.2	2988.3
32.5°	3251.9	3224.5	3125.6	2872.9	2801.5
35°	3070.7	3048.7	2900.4	2680.6	2614.7
37.5°	2889.4	2861.9	2675.2	2499.4	2417.0
40°	2708.1	2675.2	2471.9	2312.6	2224.7
42.5°	2537.8	2493.9	2296.1	2125.8	2027.0
45°	2356.6	2307.1	2109.4	1933.6	1856.7
47.5°	2175.3	2131.3	1950.1	1768.8	1680.9
50°	1983.0	1944.6	1779.8	1598.5	1505.1
52.5°	1823.7	1763.3	1604.0	1422.7	1345.8
55°	1637.0	1587.5	1439.2	1268.9	1203.0
57.5°	1466.7	1417.2	1279.9	1120.6	1065.7
60°	1307.4	1236.0	1120.6	983.3	939.3
62.5°	1131.6	1076.7	977.8	862.4	917.4
65°	972.3	917.4	829.5	845.9	703.1
67.5°	796.5	769.0	692.1	615.2	593.3
70°	648.2	615.2	587.8	505.4	483.4
72.5°	516.4	483.4	444.9	401.0	384.5
75°	390.0	362.5	340.6	324.1	357.1
77.5°	269.2	258.2	241.7	225.2	219.7
80°	175.8	170.3	164.8	159.3	153.8
82.5°	104.4	104.4	104.4	104.4	104.4
85°	54.9	60.4	65.9	71.4	76.9
87.5°	33.0	33.0	38.5	43.9	49.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)