

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: P563880

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563880
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-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8252.0 lumens
Efficiency: N/A
Efficacy: 88.2 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

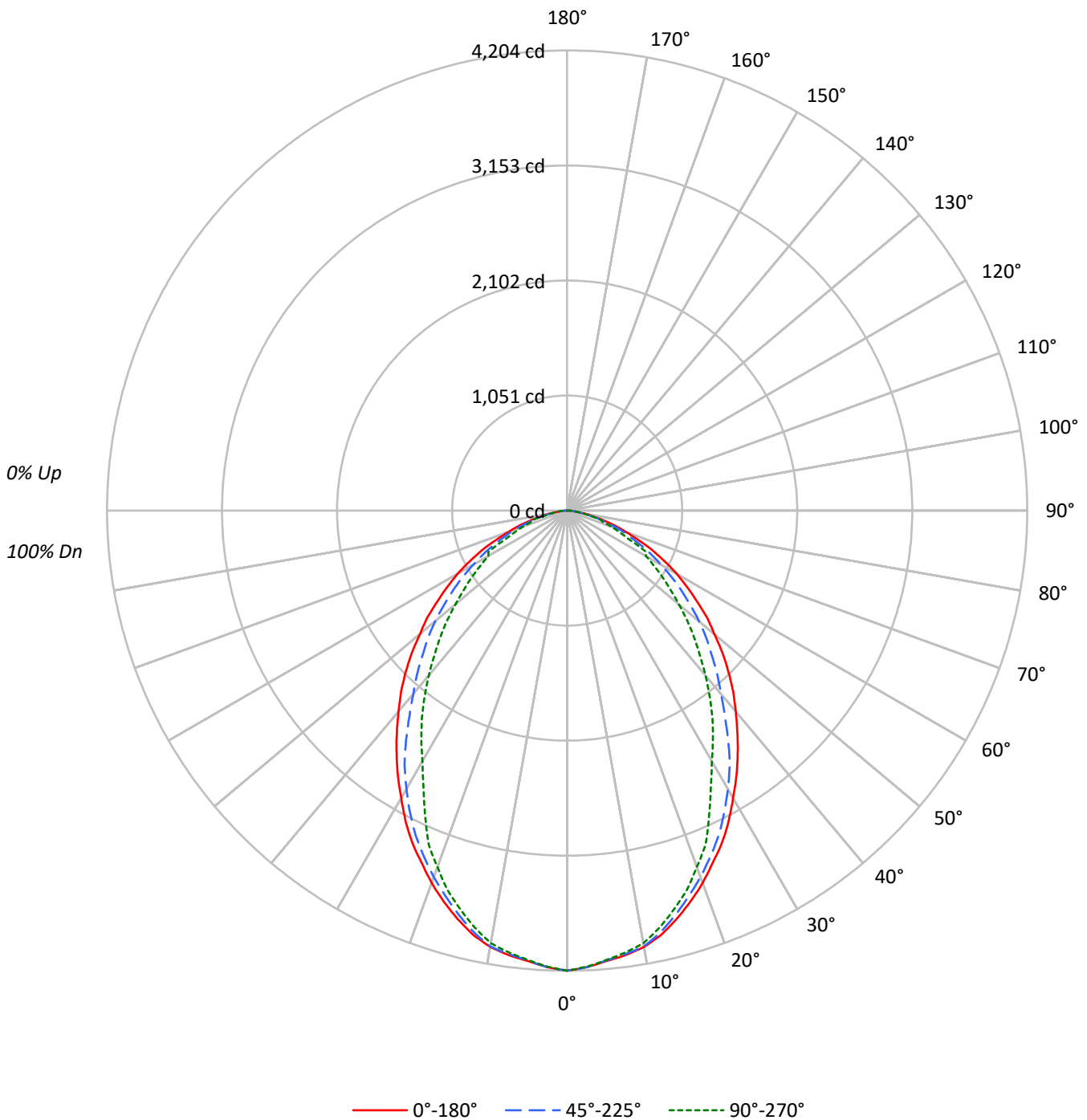
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5656	5656	5656
5°	5579	5572	5566
10°	5531	5524	5484
15°	5381	5327	5253
20°	5184	5100	4961
25°	4971	4862	4559
30°	4711	4560	4107
35°	4462	4214	3799
40°	4208	3841	3457
45°	3967	3551	3125
50°	3672	3296	2787
55°	3397	2987	2496
60°	3112	2668	2236
65°	2738	2336	1980
70°	2256	2046	1682
75°	1794	1566	1642
80°	1205	1130	1055
85°	750	900	1050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3967 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	391.3	4.7
10°-20°	1073.8	13.0
20°-30°	1486.7	18.0
30°-40°	1585.2	19.2
40°-50°	1446.2	17.5
50°-60°	1133.0	13.7
60°-70°	738.4	8.9
70°-80°	327.1	4.0
80°-90°	70.2	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°	2951.8	35.8
0°-40°	4537.0	55.0
0°-60°	7116.2	86.2
0°-90°	8252.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8252.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4204	4204	4204	4204	4204	
5°	4131	4126	4126	4121	4121	392
15°	3863	3863	3824	3786	3771	1086
25°	3348	3329	3275	3159	3071	1537
35°	2716	2697	2566	2371	2313	1698
45°	2085	2041	1866	1710	1642	1606
55°	1448	1404	1273	1122	1064	1299
65°	860	812	734	748	622	848
75°	345	321	301	287	316	370
85°	49	54	58	63	68	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4203.5	4203.5	4203.5	4203.5	4203.5
2.5°	4174.3	4174.3	4174.3	4169.4	4169.4
5°	4130.6	4125.7	4125.7	4120.8	4120.8
7.5°	4096.5	4091.7	4086.8	4082.0	4072.3
10°	4048.0	4048.0	4043.1	4018.8	4013.9
12.5°	3970.2	3965.3	3945.9	3911.9	3902.2
15°	3863.3	3863.3	3824.4	3785.5	3771.0
17.5°	3746.7	3741.8	3693.2	3654.3	3634.9
20°	3620.3	3610.6	3562.0	3498.8	3464.8
22.5°	3479.4	3479.4	3421.1	3338.5	3304.5
25°	3348.2	3328.8	3275.3	3158.7	3071.2
27.5°	3197.5	3168.4	3110.1	2944.9	2842.8
30°	3032.3	3017.7	2935.1	2721.3	2643.6
32.5°	2876.8	2852.5	2765.0	2541.5	2478.3
35°	2716.5	2697.0	2565.8	2371.4	2313.1
37.5°	2556.1	2531.8	2366.6	2211.1	2138.2
40°	2395.7	2366.6	2186.8	2045.8	1968.1
42.5°	2245.1	2206.2	2031.3	1880.6	1793.2
45°	2084.7	2041.0	1866.0	1710.5	1642.5
47.5°	1924.4	1885.5	1725.1	1564.8	1487.0
50°	1754.3	1720.3	1574.5	1414.1	1331.5
52.5°	1613.4	1559.9	1419.0	1258.6	1190.6
55°	1448.1	1404.4	1273.2	1122.5	1064.2
57.5°	1297.5	1253.7	1132.3	991.3	942.7
60°	1156.6	1093.4	991.3	869.8	831.0
62.5°	1001.1	952.5	865.0	762.9	811.5
65°	860.1	811.5	733.8	748.4	622.0
67.5°	704.6	680.3	612.3	544.3	524.8
70°	573.4	544.3	520.0	447.1	427.6
72.5°	456.8	427.6	393.6	354.7	340.2
75°	345.0	320.7	301.3	286.7	315.9
77.5°	238.1	228.4	213.8	199.2	194.4
80°	155.5	150.6	145.8	140.9	136.1
82.5°	92.3	92.3	92.3	92.3	92.3
85°	48.6	53.5	58.3	63.2	68.0
87.5°	29.2	29.2	34.0	38.9	43.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)