

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: P564142

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564142
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-LD4-4STD-40-UNV-93-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12685.0 lumens
Efficiency: N/A
Efficacy: 95.2 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

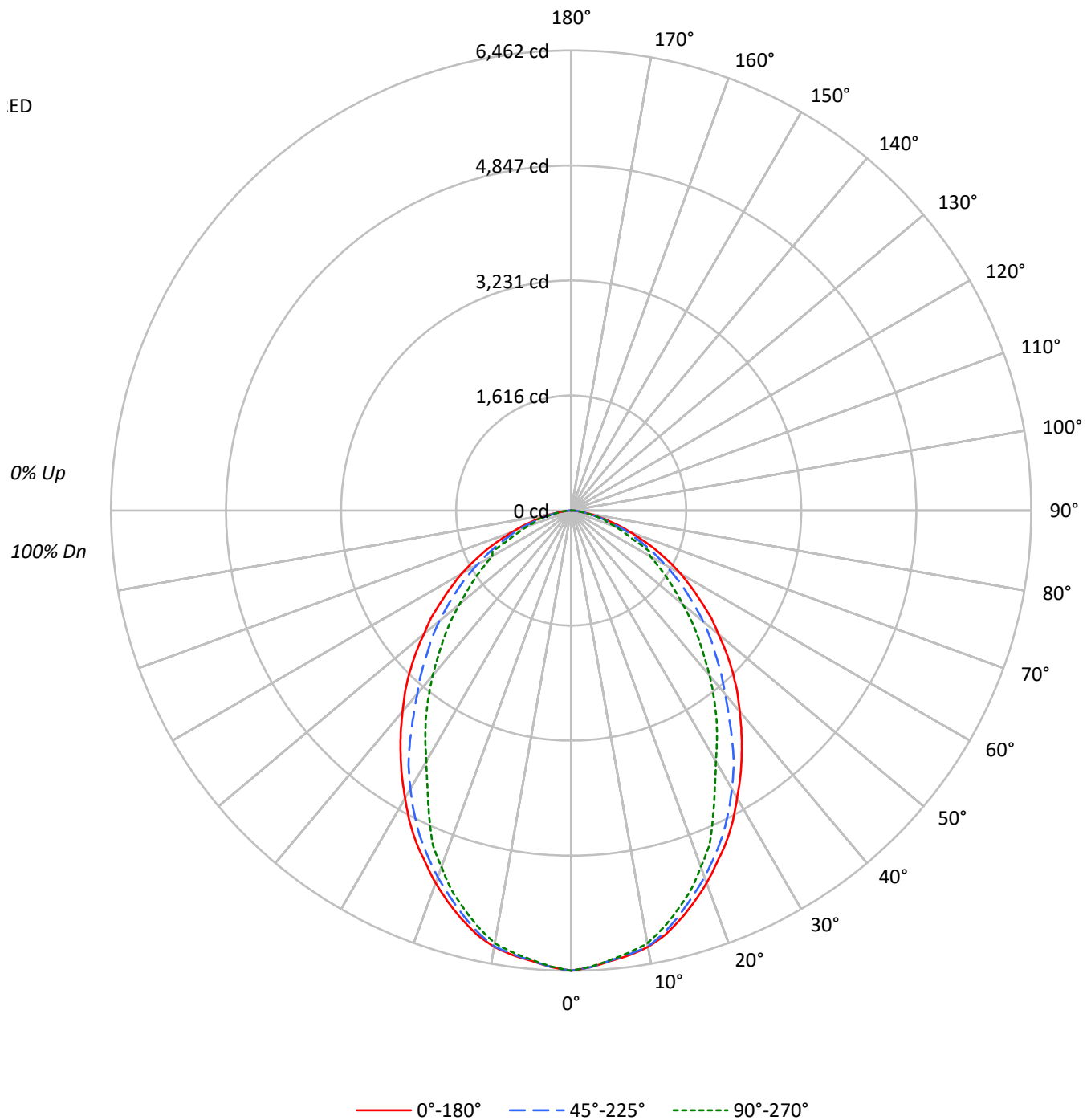
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	8694	8694	8694
5°	8576	8566	8556
10°	8501	8491	8430
15°	8272	8189	8075
20°	7968	7840	7626
25°	7641	7475	7009
30°	7242	7010	6314
35°	6859	6479	5840
40°	6468	5904	5314
45°	6098	5458	4804
50°	5645	5066	4284
55°	5222	4591	3837
60°	4784	4101	3437
65°	4209	3591	3044
70°	3468	3144	2586
75°	2757	2407	2524
80°	1852	1736	1621
85°	1153	1383	1615

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6098 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	601.5	4.7
10°-20°	1650.7	13.0
20°-30°	2285.3	18.0
30°-40°	2436.8	19.2
40°-50°	2223.1	17.5
50°-60°	1741.6	13.7
60°-70°	1135.1	8.9
70°-80°	502.9	4.0
80°-90°	108.0	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°	4537.5	35.8
0°-40°	6974.3	55.0
0°-60°	10939.0	86.2
0°-90°	12685.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12685.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6462	6462	6462	6462	6462	
5°	6350	6342	6342	6335	6335	603
15°	5939	5939	5879	5819	5797	1670
25°	5147	5117	5035	4856	4721	2363
35°	4176	4146	3944	3645	3556	2611
45°	3205	3137	2868	2629	2525	2469
55°	2226	2159	1957	1726	1636	1997
65°	1322	1248	1128	1150	956	1303
75°	530	493	463	441	486	568
85°	75	82	90	97	105	104
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6461.6	6461.6	6461.6	6461.6	6461.6
2.5°	6416.7	6416.7	6416.7	6409.3	6409.3
5°	6349.5	6342.0	6342.0	6334.6	6334.6
7.5°	6297.2	6289.8	6282.3	6274.8	6259.9
10°	6222.5	6222.5	6215.1	6177.7	6170.2
12.5°	6103.0	6095.5	6065.7	6013.4	5998.4
15°	5938.7	5938.7	5878.9	5819.1	5796.7
17.5°	5759.4	5751.9	5677.2	5617.5	5587.6
20°	5565.2	5550.2	5475.5	5378.4	5326.1
22.5°	5348.5	5348.5	5258.9	5131.9	5079.6
25°	5146.8	5117.0	5034.8	4855.5	4721.1
27.5°	4915.3	4870.5	4780.8	4526.8	4370.0
30°	4661.3	4638.9	4511.9	4183.2	4063.7
32.5°	4422.3	4384.9	4250.4	3906.8	3809.7
35°	4175.7	4145.9	3944.2	3645.4	3555.7
37.5°	3929.2	3891.9	3637.9	3398.9	3286.8
40°	3682.7	3637.9	3361.5	3144.9	3025.4
42.5°	3451.2	3391.4	3122.5	2890.9	2756.4
45°	3204.6	3137.4	2868.5	2629.4	2524.9
47.5°	2958.1	2898.4	2651.9	2405.3	2285.8
50°	2696.7	2644.4	2420.3	2173.8	2046.8
52.5°	2480.0	2397.9	2181.2	1934.7	1830.2
55°	2226.1	2158.8	1957.1	1725.6	1635.9
57.5°	1994.5	1927.3	1740.5	1523.9	1449.2
60°	1777.9	1680.8	1523.9	1337.1	1277.4
62.5°	1538.8	1464.1	1329.7	1172.8	1247.5
65°	1322.2	1247.5	1128.0	1150.4	956.2
67.5°	1083.2	1045.8	941.2	836.6	806.8
70°	881.5	836.6	799.3	687.2	657.4
72.5°	702.2	657.4	605.1	545.3	522.9
75°	530.4	493.0	463.1	440.7	485.6
77.5°	366.0	351.1	328.7	306.3	298.8
80°	239.0	231.6	224.1	216.6	209.2
82.5°	141.9	141.9	141.9	141.9	141.9
85°	74.7	82.2	89.6	97.1	104.6
87.5°	44.8	44.8	52.3	59.8	67.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)