

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: P563558

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563558
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-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9334.0 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

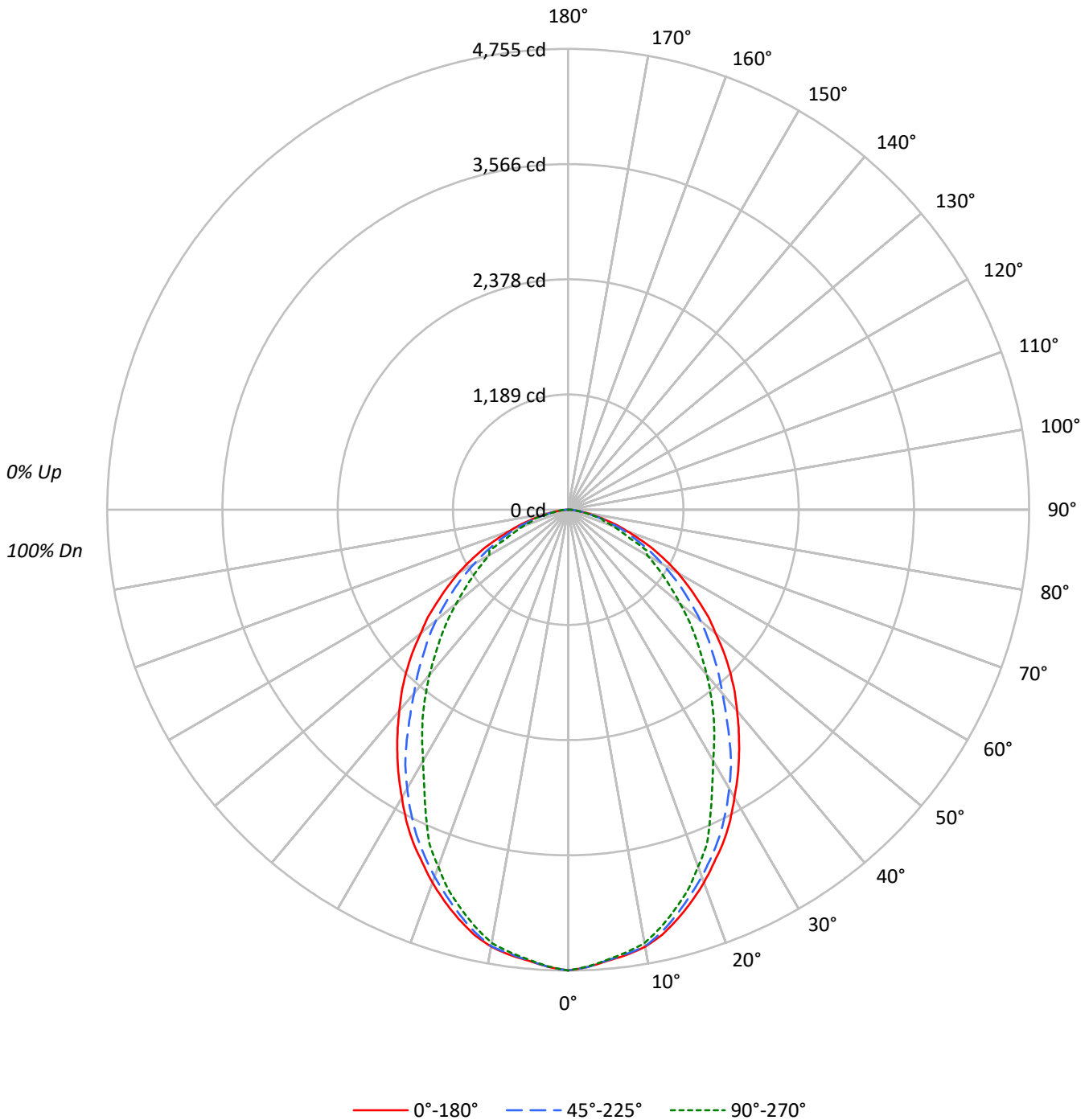
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6397	6397	6397
5°	6310	6303	6296
10°	6256	6248	6203
15°	6087	6026	5942
20°	5863	5769	5612
25°	5622	5500	5157
30°	5329	5158	4646
35°	5047	4767	4298
40°	4760	4344	3910
45°	4487	4016	3535
50°	4154	3728	3153
55°	3842	3378	2824
60°	3520	3017	2529
65°	3097	2642	2240
70°	2552	2314	1903
75°	2029	1772	1857
80°	1363	1278	1192
85°	849	1019	1189

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4487 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	442.6	4.7
10°-20°	1214.7	13.0
20°-30°	1681.6	18.0
30°-40°	1793.1	19.2
40°-50°	1635.8	17.5
50°-60°	1281.5	13.7
60°-70°	835.2	8.9
70°-80°	370.1	4.0
80°-90°	79.5	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°	3338.8	35.8
0°-40°	5131.9	55.0
0°-60°	8049.2	86.2
0°-90°	9334.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9334.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4755	4755	4755	4755	4755	
5°	4672	4667	4667	4661	4661	443
15°	4370	4370	4326	4282	4265	1228
25°	3787	3765	3705	3573	3474	1739
35°	3073	3051	2902	2682	2616	1921
45°	2358	2309	2111	1935	1858	1816
55°	1638	1588	1440	1270	1204	1469
65°	973	918	830	846	704	959
75°	390	363	341	324	357	418
85°	55	60	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°	4754.6	4754.6	4754.6	4754.6	4754.6
2.5°	4721.6	4721.6	4721.6	4716.1	4716.1
5°	4672.2	4666.7	4666.7	4661.2	4661.2
7.5°	4633.7	4628.2	4622.7	4617.2	4606.2
10°	4578.7	4578.7	4573.2	4545.7	4540.2
12.5°	4490.8	4485.3	4463.3	4424.8	4413.8
15°	4369.8	4369.8	4325.9	4281.9	4265.4
17.5°	4237.9	4232.4	4177.5	4133.5	4111.5
20°	4095.0	4084.0	4029.1	3957.6	3919.1
22.5°	3935.6	3935.6	3869.7	3776.2	3737.7
25°	3787.2	3765.2	3704.8	3572.8	3473.9
27.5°	3616.8	3583.8	3517.9	3331.0	3215.5
30°	3429.9	3413.4	3320.0	3078.1	2990.2
32.5°	3254.0	3226.5	3127.6	2874.8	2803.3
35°	3072.6	3050.6	2902.2	2682.4	2616.4
37.5°	2891.2	2863.8	2676.9	2501.0	2418.5
40°	2709.9	2676.9	2473.5	2314.1	2226.1
42.5°	2539.5	2495.5	2297.6	2127.2	2028.3
45°	2358.1	2308.6	2110.7	1934.8	1857.9
47.5°	2176.7	2132.7	1951.3	1769.9	1682.0
50°	1984.3	1945.8	1780.9	1599.5	1506.1
52.5°	1824.9	1764.4	1605.0	1423.6	1346.7
55°	1638.0	1588.5	1440.1	1269.7	1203.8
57.5°	1467.6	1418.1	1280.7	1121.3	1066.4
60°	1308.2	1236.7	1121.3	983.9	939.9
62.5°	1132.3	1077.3	978.4	863.0	917.9
65°	972.9	917.9	830.0	846.5	703.6
67.5°	797.0	769.5	692.6	615.6	593.6
70°	648.6	615.6	588.1	505.7	483.7
72.5°	516.7	483.7	445.2	401.3	384.8
75°	390.3	362.8	340.8	324.3	357.3
77.5°	269.3	258.3	241.9	225.4	219.9
80°	175.9	170.4	164.9	159.4	153.9
82.5°	104.4	104.4	104.4	104.4	104.4
85°	55.0	60.5	66.0	71.5	77.0
87.5°	33.0	33.0	38.5	44.0	49.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)