

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: P561421

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561421
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-12-4-LD4-2HI-40-UNV-81-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7749.0 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

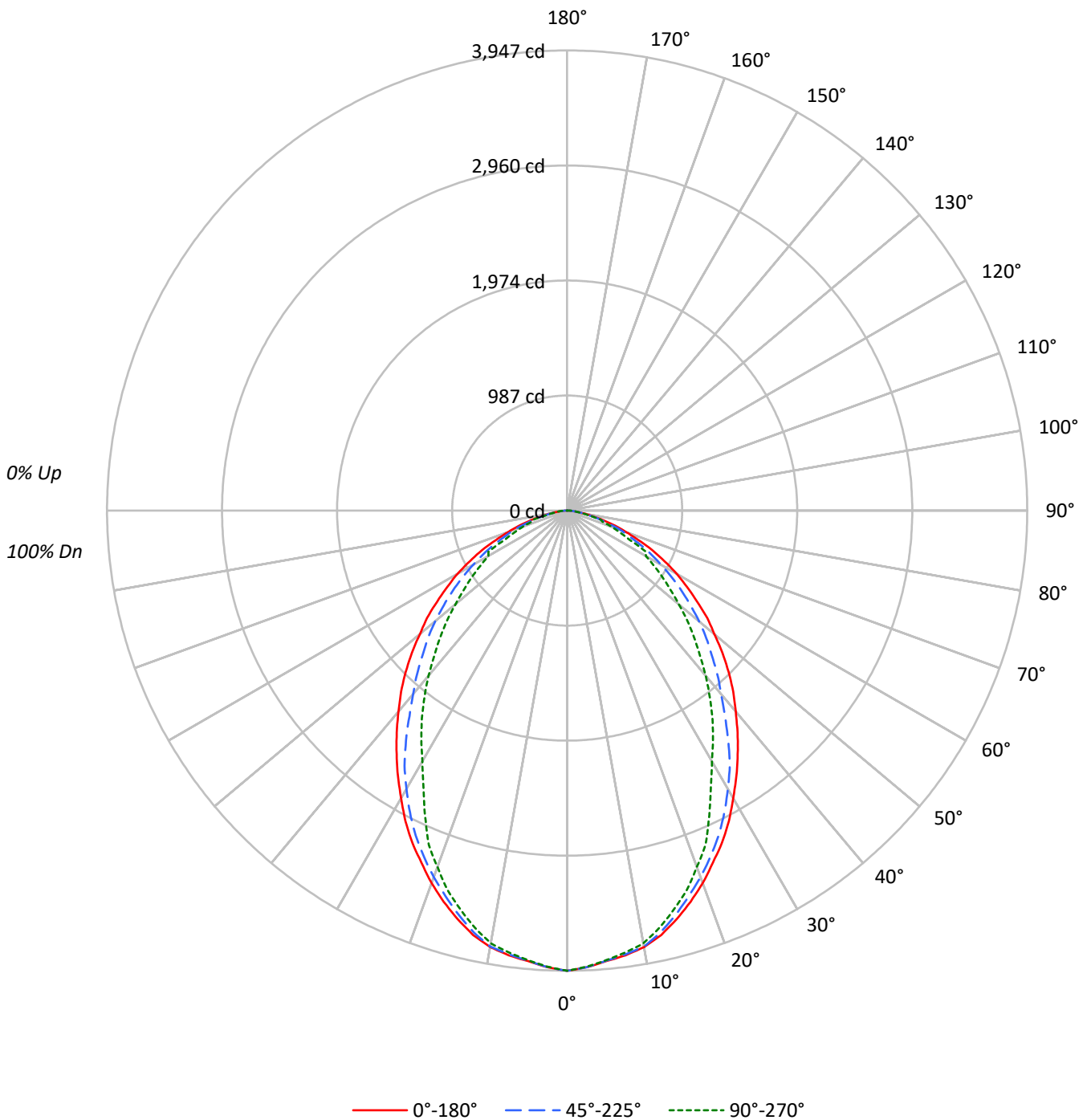
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10622	10622	10622
5°	10478	10465	10453
10°	10387	10374	10300
15°	10107	10005	9865
20°	9735	9579	9317
25°	9335	9132	8563
30°	8848	8564	7713
35°	8380	7915	7136
40°	7903	7214	6492
45°	7450	6669	5870
50°	6896	6190	5234
55°	6380	5609	4689
60°	5845	5010	4200
65°	5143	4388	3719
70°	4237	3842	3160
75°	3369	2941	3084
80°	2263	2122	1980
85°	1408	1692	1973

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7450 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	367.4	4.7
10°-20°	1008.4	13.0
20°-30°	1396.0	18.0
30°-40°	1488.6	19.2
40°-50°	1358.0	17.5
50°-60°	1063.9	13.7
60°-70°	693.4	8.9
70°-80°	307.2	4.0
80°-90°	66.0	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°	2771.9	35.8
0°-40°	4260.5	55.0
0°-60°	6682.4	86.2
0°-90°	7749.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7749.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3947	3947	3947	3947	3947	
5°	3879	3874	3874	3870	3870	368
15°	3628	3628	3591	3555	3541	1020
25°	3144	3126	3076	2966	2884	1443
35°	2551	2533	2409	2227	2172	1595
45°	1958	1917	1752	1606	1542	1508
55°	1360	1319	1196	1054	999	1220
65°	808	762	689	703	584	796
75°	324	301	283	269	297	347
85°	46	50	55	59	64	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3947.2	3947.2	3947.2	3947.2	3947.2
2.5°	3919.9	3919.9	3919.9	3915.3	3915.3
5°	3878.8	3874.2	3874.2	3869.7	3869.7
7.5°	3846.8	3842.3	3837.7	3833.2	3824.0
10°	3801.2	3801.2	3796.6	3773.8	3769.3
12.5°	3728.2	3723.6	3705.4	3673.4	3664.3
15°	3627.8	3627.8	3591.3	3554.8	3541.1
17.5°	3518.3	3513.7	3468.1	3431.6	3413.3
20°	3399.6	3390.5	3344.9	3285.6	3253.6
22.5°	3267.3	3267.3	3212.5	3135.0	3103.0
25°	3144.1	3125.8	3075.7	2966.1	2884.0
27.5°	3002.6	2975.3	2920.5	2765.3	2669.5
30°	2847.5	2833.8	2756.2	2555.4	2482.4
32.5°	2701.5	2678.6	2596.5	2386.6	2327.3
35°	2550.9	2532.6	2409.4	2226.9	2172.1
37.5°	2400.3	2377.5	2222.3	2076.3	2007.8
40°	2249.7	2222.3	2053.5	1921.1	1848.1
42.5°	2108.2	2071.7	1907.5	1766.0	1683.9
45°	1957.6	1916.6	1752.3	1606.3	1542.4
47.5°	1807.1	1770.6	1620.0	1469.4	1396.4
50°	1647.3	1615.4	1478.5	1327.9	1250.3
52.5°	1515.0	1464.8	1332.5	1181.9	1118.0
55°	1359.9	1318.8	1195.6	1054.1	999.4
57.5°	1218.4	1177.3	1063.2	930.9	885.3
60°	1086.1	1026.7	930.9	816.8	780.3
62.5°	940.0	894.4	812.3	716.4	762.1
65°	807.7	762.1	689.1	702.7	584.1
67.5°	661.7	638.9	575.0	511.1	492.8
70°	538.5	511.1	488.3	419.8	401.6
72.5°	428.9	401.6	369.6	333.1	319.4
75°	324.0	301.2	282.9	269.2	296.6
77.5°	223.6	214.5	200.8	187.1	182.5
80°	146.0	141.5	136.9	132.3	127.8
82.5°	86.7	86.7	86.7	86.7	86.7
85°	45.6	50.2	54.8	59.3	63.9
87.5°	27.4	27.4	31.9	36.5	41.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)