

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: P560826

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560826
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-LD4-1HI-40-UNV-80-94-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3465.0 lumens
Efficiency: N/A
Efficacy: 80.2 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

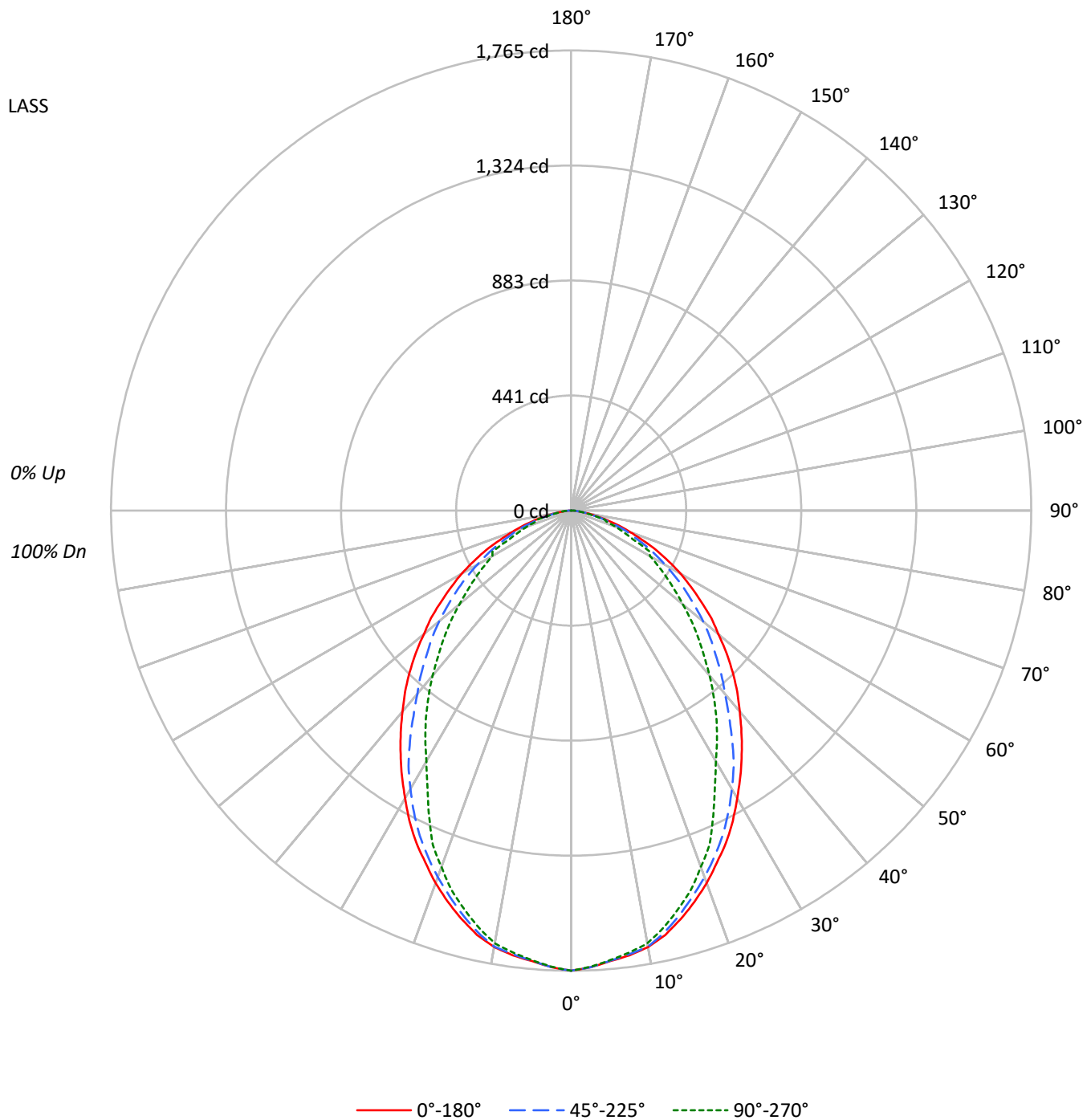
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4750	4750	4750
5°	4685	4680	4674
10°	4644	4639	4605
15°	4519	4474	4411
20°	4353	4283	4166
25°	4174	4083	3829
30°	3956	3830	3449
35°	3747	3539	3191
40°	3534	3225	2903
45°	3331	2982	2625
50°	3084	2768	2341
55°	2853	2508	2097
60°	2613	2241	1878
65°	2300	1962	1663
70°	1895	1718	1413
75°	1507	1315	1379
80°	1012	948	885
85°	630	756	883

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3331 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.3	4.7
10°-20°	450.9	13.0
20°-30°	624.2	18.0
30°-40°	665.6	19.2
40°-50°	607.2	17.5
50°-60°	475.7	13.7
60°-70°	310.1	8.9
70°-80°	137.4	4.0
80°-90°	29.5	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°	1239.5	35.8
0°-40°	1905.1	55.0
0°-60°	2988.1	86.2
0°-90°	3465.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3465.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1765	1765	1765	1765	1765	
5°	1734	1732	1732	1730	1730	165
15°	1622	1622	1606	1590	1583	456
25°	1406	1398	1375	1326	1290	645
35°	1141	1132	1077	996	971	713
45°	875	857	784	718	690	674
55°	608	590	535	471	447	545
65°	361	341	308	314	261	356
75°	145	135	126	120	133	155
85°	20	22	24	26	29	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1765.0	1765.0	1765.0	1765.0	1765.0
2.5°	1752.8	1752.8	1752.8	1750.7	1750.7
5°	1734.4	1732.4	1732.4	1730.3	1730.3
7.5°	1720.1	1718.1	1716.1	1714.0	1709.9
10°	1699.7	1699.7	1697.7	1687.5	1685.4
12.5°	1667.1	1665.0	1656.9	1642.6	1638.5
15°	1622.2	1622.2	1605.9	1589.5	1583.4
17.5°	1573.2	1571.2	1550.8	1534.4	1526.3
20°	1520.2	1516.1	1495.7	1469.2	1454.9
22.5°	1461.0	1461.0	1436.5	1401.8	1387.5
25°	1405.9	1397.7	1375.3	1326.3	1289.6
27.5°	1342.6	1330.4	1305.9	1236.5	1193.7
30°	1273.3	1267.1	1232.5	1142.7	1110.0
32.5°	1208.0	1197.8	1161.0	1067.2	1040.7
35°	1140.6	1132.5	1077.4	995.8	971.3
37.5°	1073.3	1063.1	993.7	928.4	897.8
40°	1006.0	993.7	918.2	859.0	826.4
42.5°	942.7	926.4	852.9	789.7	752.9
45°	875.4	857.0	783.5	718.3	689.7
47.5°	808.0	791.7	724.4	657.0	624.4
50°	736.6	722.3	661.1	593.8	559.1
52.5°	677.4	655.0	595.8	528.5	499.9
55°	608.1	589.7	534.6	471.4	446.9
57.5°	544.8	526.4	475.4	416.3	395.9
60°	485.6	459.1	416.3	365.2	348.9
62.5°	420.3	399.9	363.2	320.4	340.8
65°	361.2	340.8	308.1	314.2	261.2
67.5°	295.9	285.7	257.1	228.5	220.4
70°	240.8	228.5	218.3	187.7	179.6
72.5°	191.8	179.6	165.3	149.0	142.8
75°	144.9	134.7	126.5	120.4	132.6
77.5°	100.0	95.9	89.8	83.7	81.6
80°	65.3	63.3	61.2	59.2	57.1
82.5°	38.8	38.8	38.8	38.8	38.8
85°	20.4	22.4	24.5	26.5	28.6
87.5°	12.2	12.2	14.3	16.3	18.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)