

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: P560983

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560983
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-LD4-1LO-35-UNV-82-87-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

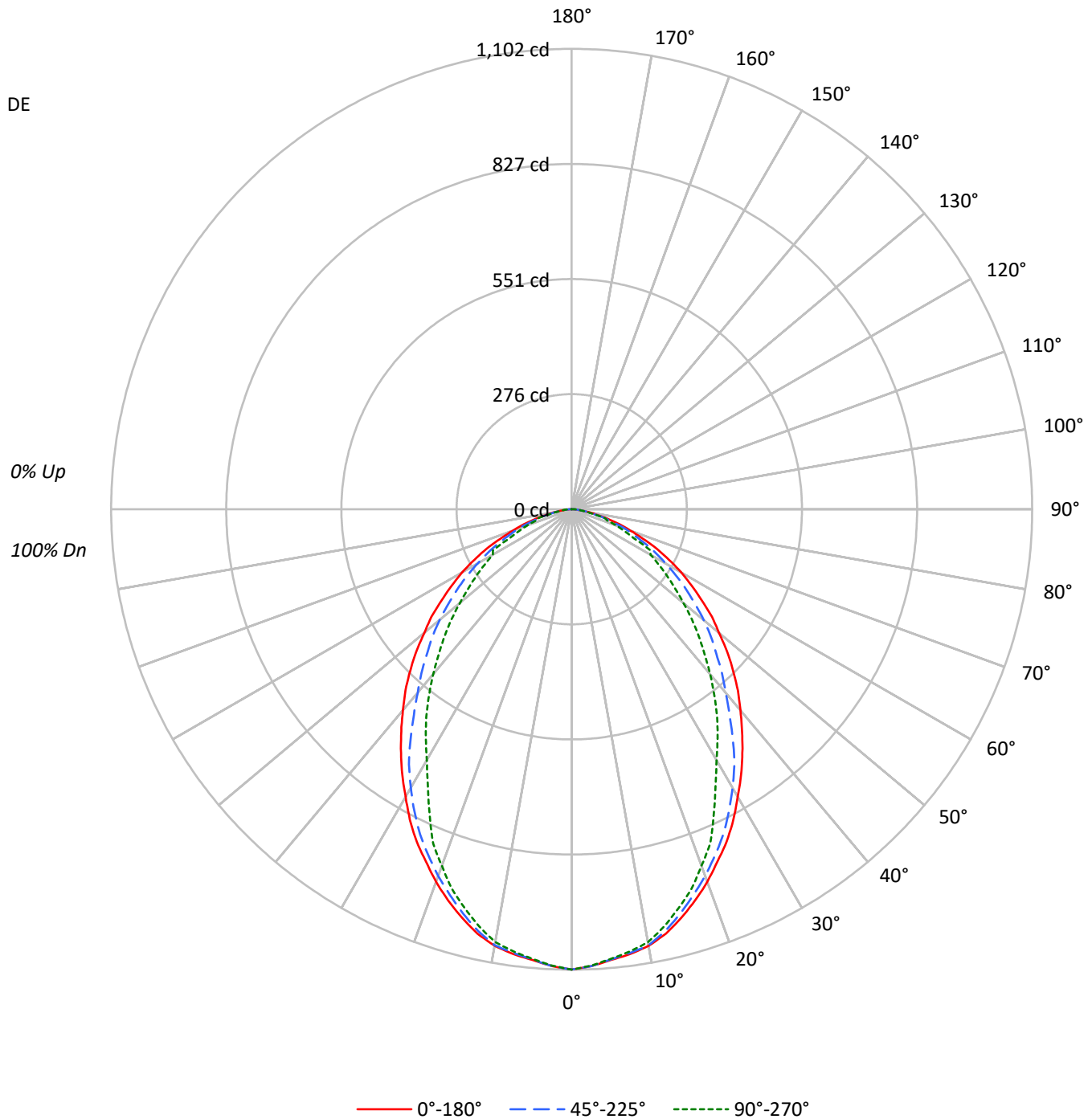
Lumens per Lamp: N/A
Luminaire Lumens: 2163.0 lumens
Efficiency: N/A
Efficacy: 92.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	2965	2965	2965
5°	2925	2921	2918
10°	2899	2896	2875
15°	2821	2793	2754
20°	2718	2674	2601
25°	2606	2549	2390
30°	2470	2391	2153
35°	2339	2209	1992
40°	2206	2014	1812
45°	2079	1861	1638
50°	1925	1728	1461
55°	1781	1566	1309
60°	1632	1398	1172
65°	1436	1224	1038
70°	1183	1072	882
75°	940	821	861
80°	632	592	553
85°	392	472	550

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2079 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.6	4.7
10°-20°	281.5	13.0
20°-30°	389.7	18.0
30°-40°	415.5	19.2
40°-50°	379.1	17.5
50°-60°	297.0	13.7
60°-70°	193.6	8.9
70°-80°	85.8	4.0
80°-90°	18.4	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°	773.7	35.8
0°-40°	1189.2	55.0
0°-60°	1865.3	86.2
0°-90°	2163.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2163.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1102	1102	1102	1102	1102	
5°	1083	1081	1081	1080	1080	103
15°	1013	1013	1002	992	988	285
25°	878	872	858	828	805	403
35°	712	707	672	622	606	445
45°	546	535	489	448	430	421
55°	380	368	334	294	279	340
65°	226	213	192	196	163	222
75°	90	84	79	75	83	97
85°	13	14	15	17	18	18
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1101.8	1101.8	1101.8	1101.8	1101.8
2.5°	1094.2	1094.2	1094.2	1092.9	1092.9
5°	1082.7	1081.4	1081.4	1080.1	1080.1
7.5°	1073.8	1072.5	1071.2	1070.0	1067.4
10°	1061.0	1061.0	1059.8	1053.4	1052.1
12.5°	1040.7	1039.4	1034.3	1025.4	1022.8
15°	1012.6	1012.6	1002.4	992.3	988.4
17.5°	982.1	980.8	968.1	957.9	952.8
20°	949.0	946.4	933.7	917.1	908.2
22.5°	912.0	912.0	896.7	875.1	866.2
25°	877.6	872.5	858.5	827.9	805.0
27.5°	838.1	830.5	815.2	771.9	745.2
30°	794.8	791.0	769.4	713.3	692.9
32.5°	754.1	747.7	724.8	666.2	649.6
35°	712.0	706.9	672.5	621.6	606.3
37.5°	670.0	663.6	620.3	579.6	560.5
40°	628.0	620.3	573.2	536.3	515.9
42.5°	588.5	578.3	532.4	492.9	470.0
45°	546.4	535.0	489.1	448.4	430.5
47.5°	504.4	494.2	452.2	410.2	389.8
50°	459.8	450.9	412.7	370.7	349.0
52.5°	422.9	408.9	371.9	329.9	312.1
55°	379.6	368.1	333.7	294.2	279.0
57.5°	340.1	328.6	296.8	259.8	247.1
60°	303.2	286.6	259.8	228.0	217.8
62.5°	262.4	249.7	226.7	200.0	212.7
65°	225.5	212.7	192.3	196.2	163.0
67.5°	184.7	178.3	160.5	142.7	137.6
70°	150.3	142.7	136.3	117.2	112.1
72.5°	119.7	112.1	103.2	93.0	89.2
75°	90.4	84.1	79.0	75.2	82.8
77.5°	62.4	59.9	56.0	52.2	51.0
80°	40.8	39.5	38.2	36.9	35.7
82.5°	24.2	24.2	24.2	24.2	24.2
85°	12.7	14.0	15.3	16.6	17.8
87.5°	7.6	7.6	8.9	10.2	11.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)