

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: P561752

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561752
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-LD4-2STD-35-UNV-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4365.0 lumens
Efficiency: N/A
Efficacy: 65.5 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

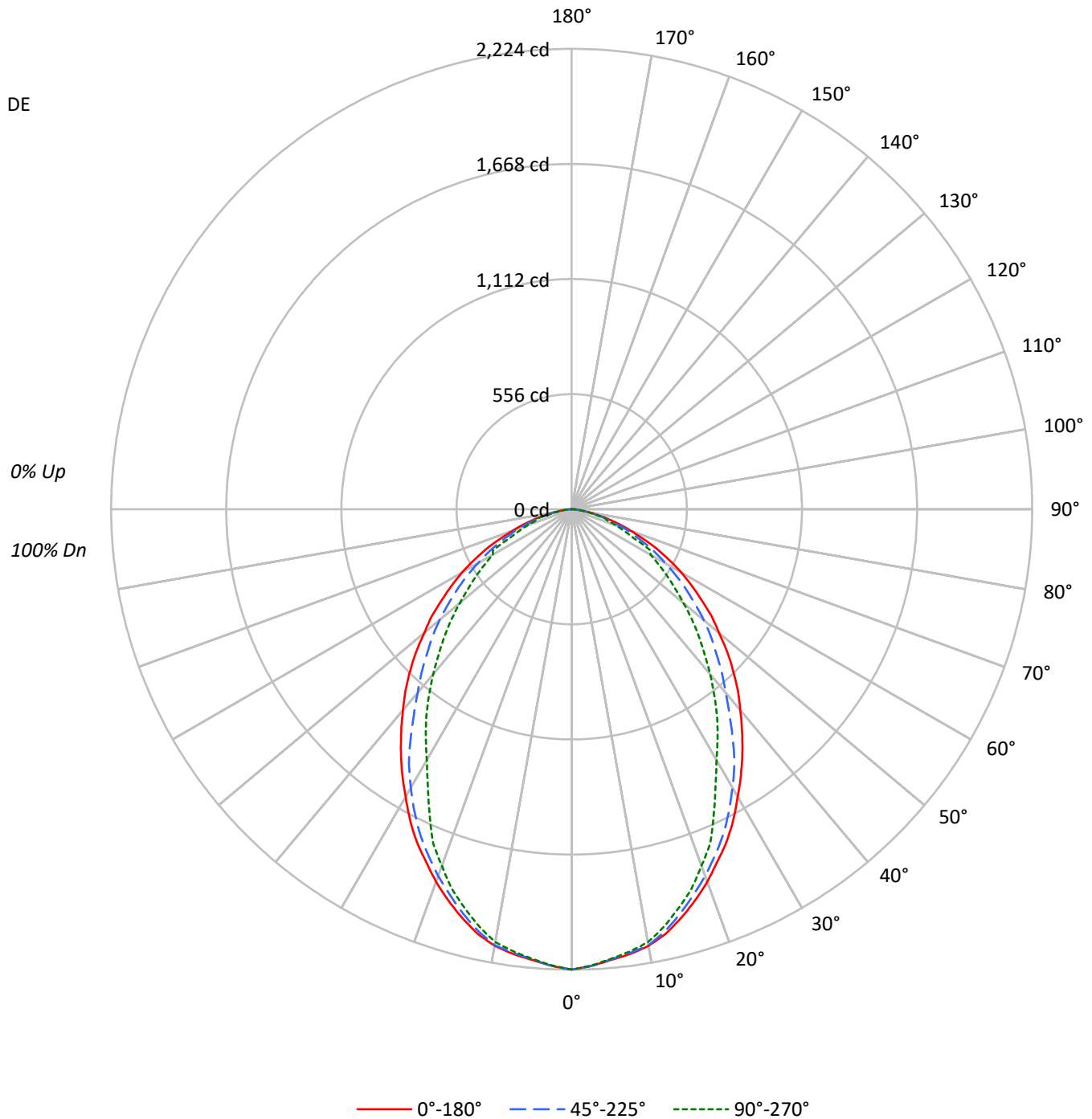
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5983	5983	5983
5°	5902	5895	5888
10°	5851	5844	5802
15°	5693	5636	5557
20°	5484	5396	5249
25°	5259	5144	4823
30°	4984	4824	4345
35°	4720	4459	4020
40°	4452	4063	3657
45°	4196	3757	3306
50°	3885	3486	2948
55°	3594	3160	2641
60°	3293	2822	2366
65°	2897	2471	2095
70°	2386	2164	1780
75°	1897	1657	1737
80°	1275	1195	1116
85°	794	951	1112

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4196 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.0	4.7
10°-20°	568.0	13.0
20°-30°	786.4	18.0
30°-40°	838.5	19.2
40°-50°	765.0	17.5
50°-60°	599.3	13.7
60°-70°	390.6	8.9
70°-80°	173.1	4.0
80°-90°	37.1	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°	1561.4	35.8
0°-40°	2399.9	55.0
0°-60°	3764.2	86.2
0°-90°	4365.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4365.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2224	2224	2224	2224	2224	
5°	2185	2182	2182	2180	2180	207
15°	2044	2044	2023	2002	1995	574
25°	1771	1761	1732	1671	1624	813
35°	1437	1427	1357	1254	1224	898
45°	1103	1080	987	905	869	849
55°	766	743	674	594	563	687
65°	455	429	388	396	329	448
75°	182	170	159	152	167	196
85°	26	28	31	33	36	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2223.5	2223.5	2223.5	2223.5	2223.5
2.5°	2208.0	2208.0	2208.0	2205.5	2205.5
5°	2184.9	2182.3	2182.3	2179.8	2179.8
7.5°	2166.9	2164.4	2161.8	2159.2	2154.1
10°	2141.2	2141.2	2138.6	2125.8	2123.2
12.5°	2100.1	2097.5	2087.2	2069.2	2064.1
15°	2043.5	2043.5	2023.0	2002.4	1994.7
17.5°	1981.8	1979.3	1953.6	1933.0	1922.7
20°	1915.0	1909.9	1884.2	1850.8	1832.8
22.5°	1840.5	1840.5	1809.6	1765.9	1747.9
25°	1771.1	1760.8	1732.5	1670.8	1624.5
27.5°	1691.4	1676.0	1645.1	1557.7	1503.7
30°	1604.0	1596.3	1552.6	1439.5	1398.3
32.5°	1521.7	1508.9	1462.6	1344.4	1310.9
35°	1436.9	1426.6	1357.2	1254.4	1223.6
37.5°	1352.1	1339.2	1251.8	1169.6	1131.0
40°	1267.3	1251.8	1156.7	1082.2	1041.0
42.5°	1187.6	1167.0	1074.5	994.8	948.5
45°	1102.7	1079.6	987.1	904.8	868.8
47.5°	1017.9	997.3	912.5	827.7	786.6
50°	927.9	910.0	832.8	748.0	704.3
52.5°	853.4	825.1	750.6	665.8	629.8
55°	766.0	742.9	673.5	593.8	562.9
57.5°	686.3	663.2	598.9	524.4	498.7
60°	611.8	578.4	524.4	460.1	439.6
62.5°	529.5	503.8	457.5	403.6	429.3
65°	455.0	429.3	388.1	395.9	329.0
67.5°	372.7	359.9	323.9	287.9	277.6
70°	303.3	287.9	275.0	236.5	226.2
72.5°	241.6	226.2	208.2	187.6	179.9
75°	182.5	169.7	159.4	151.7	167.1
77.5°	126.0	120.8	113.1	105.4	102.8
80°	82.3	79.7	77.1	74.5	72.0
82.5°	48.8	48.8	48.8	48.8	48.8
85°	25.7	28.3	30.8	33.4	36.0
87.5°	15.4	15.4	18.0	20.6	23.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)