

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: P561970

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-80-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561970
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-LD4-1HI-35-UNV-80-85-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

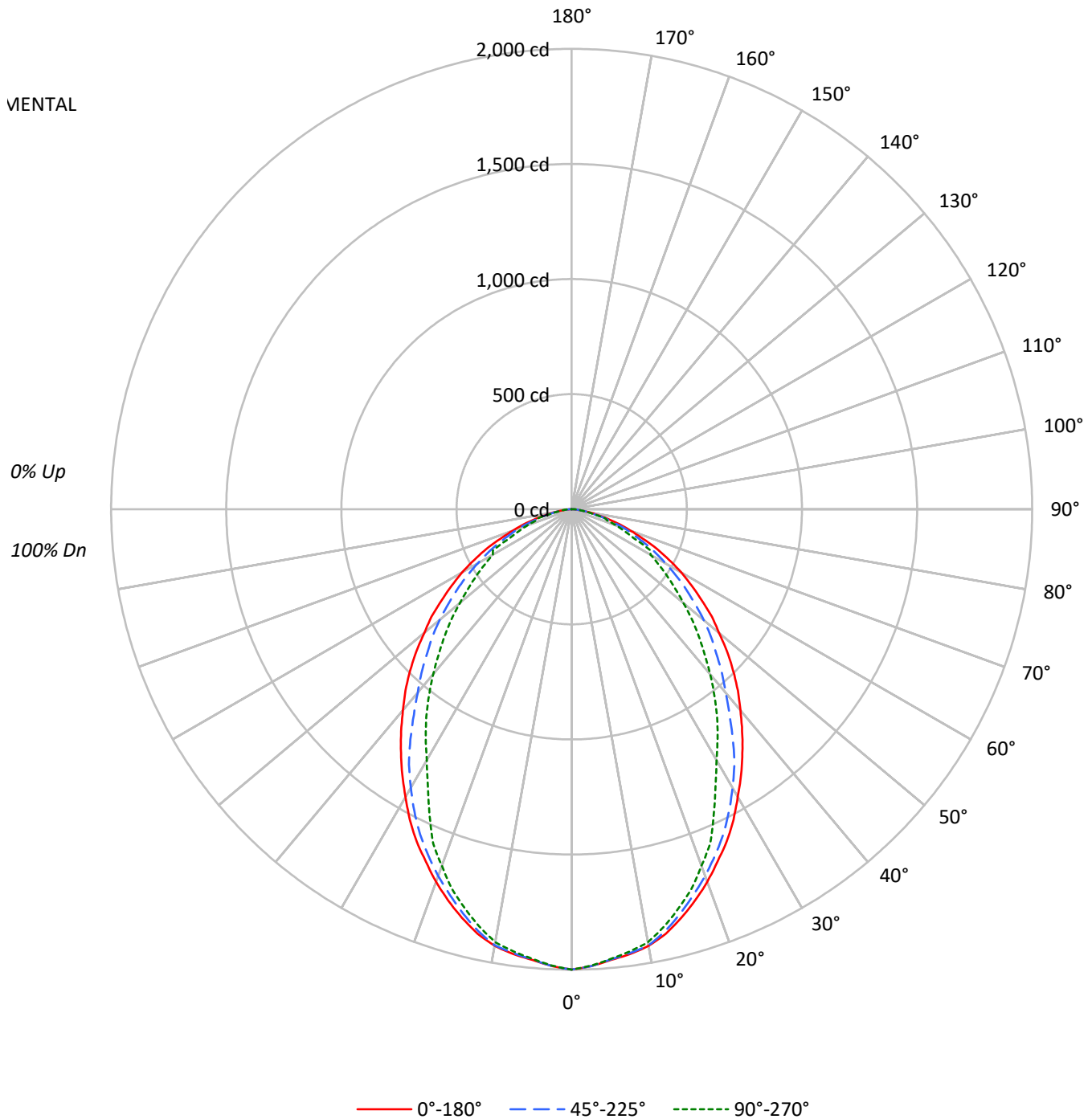
Lumens per Lamp: N/A
Luminaire Lumens: 3926.0 lumens
Efficiency: N/A
Efficacy: 90.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	2691	2691	2691
5°	2654	2651	2648
10°	2631	2628	2609
15°	2560	2534	2499
20°	2466	2427	2360
25°	2365	2313	2169
30°	2241	2169	1954
35°	2123	2005	1808
40°	2002	1827	1645
45°	1887	1689	1487
50°	1747	1568	1326
55°	1616	1421	1188
60°	1481	1269	1064
65°	1303	1111	942
70°	1073	973	801
75°	853	745	781
80°	573	538	501
85°	357	428	500

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1887 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.2	4.7
10°-20°	510.9	13.0
20°-30°	707.3	18.0
30°-40°	754.2	19.2
40°-50°	688.0	17.5
50°-60°	539.0	13.7
60°-70°	351.3	8.9
70°-80°	155.7	4.0
80°-90°	33.4	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°	1404.4	35.8
0°-40°	2158.6	55.0
0°-60°	3385.6	86.2
0°-90°	3926.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3926.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2000	2000	2000	2000	2000	
5°	1965	1963	1963	1960	1960	187
15°	1838	1838	1820	1801	1794	517
25°	1593	1584	1558	1503	1461	731
35°	1292	1283	1221	1128	1100	808
45°	992	971	888	814	781	764
55°	689	668	606	534	506	618
65°	409	386	349	356	296	403
75°	164	153	143	136	150	176
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1999.9	1999.9	1999.9	1999.9	1999.9
2.5°	1986.0	1986.0	1986.0	1983.7	1983.7
5°	1965.2	1962.9	1962.9	1960.5	1960.5
7.5°	1949.0	1946.7	1944.4	1942.1	1937.4
10°	1925.9	1925.9	1923.6	1912.0	1909.7
12.5°	1888.9	1886.6	1877.3	1861.1	1856.5
15°	1838.0	1838.0	1819.5	1801.0	1794.1
17.5°	1782.5	1780.2	1757.1	1738.6	1729.4
20°	1722.4	1717.8	1694.7	1664.6	1648.4
22.5°	1655.4	1655.4	1627.6	1588.3	1572.1
25°	1592.9	1583.7	1558.3	1502.8	1461.2
27.5°	1521.3	1507.4	1479.7	1401.1	1352.5
30°	1442.7	1435.7	1396.4	1294.7	1257.7
32.5°	1368.7	1357.1	1315.5	1209.2	1179.1
35°	1292.4	1283.1	1220.7	1128.2	1100.5
37.5°	1216.1	1204.5	1125.9	1051.9	1017.3
40°	1139.8	1125.9	1040.4	973.3	936.3
42.5°	1068.1	1049.6	966.4	894.7	853.1
45°	991.8	971.0	887.8	813.8	781.4
47.5°	915.5	897.0	820.7	744.5	707.5
50°	834.6	818.4	749.1	672.8	633.5
52.5°	767.6	742.1	675.1	598.8	566.4
55°	689.0	668.2	605.7	534.1	506.3
57.5°	617.3	596.5	538.7	471.6	448.5
60°	550.2	520.2	471.6	413.8	395.3
62.5°	476.3	453.1	411.5	363.0	386.1
65°	409.2	386.1	349.1	356.0	295.9
67.5°	335.2	323.7	291.3	258.9	249.7
70°	272.8	258.9	247.4	212.7	203.5
72.5°	217.3	203.5	187.3	168.8	161.8
75°	164.1	152.6	143.3	136.4	150.3
77.5°	113.3	108.7	101.7	94.8	92.5
80°	74.0	71.7	69.4	67.0	64.7
82.5°	43.9	43.9	43.9	43.9	43.9
85°	23.1	25.4	27.7	30.1	32.4
87.5°	13.9	13.9	16.2	18.5	20.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)