

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: P562086

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562086
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-40-UNV-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3816.0 lumens
Efficiency: N/A
Efficacy: 88.3 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

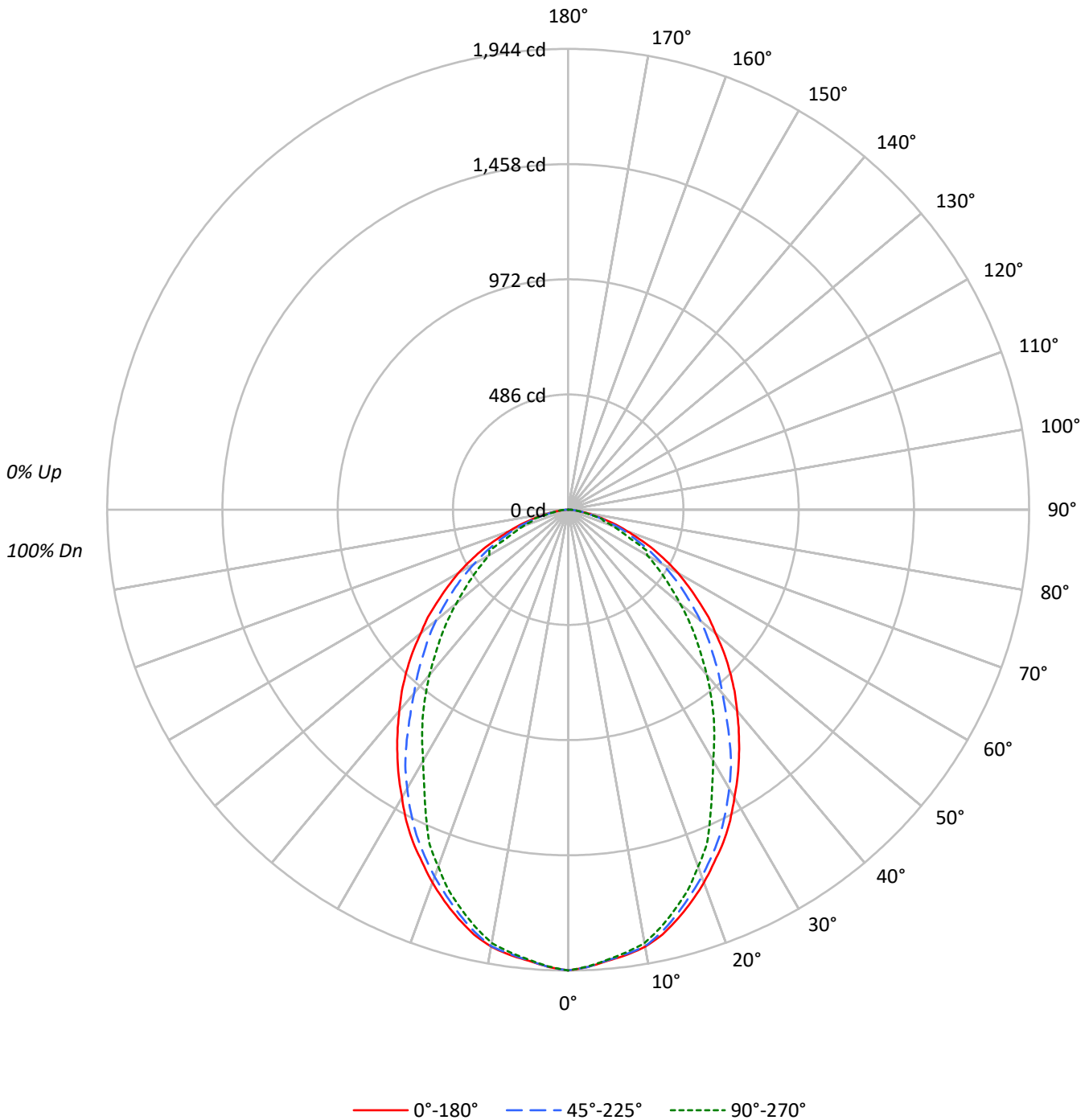
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2615	2615	2615
5°	2580	2577	2574
10°	2557	2554	2536
15°	2489	2463	2429
20°	2397	2359	2294
25°	2299	2249	2108
30°	2179	2109	1899
35°	2063	1949	1757
40°	1946	1776	1599
45°	1834	1642	1445
50°	1698	1524	1289
55°	1571	1381	1154
60°	1439	1234	1034
65°	1266	1080	916
70°	1043	946	778
75°	830	724	760
80°	557	522	487
85°	347	417	486

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1834 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.9	4.7
10°-20°	496.6	13.0
20°-30°	687.5	18.0
30°-40°	733.1	19.2
40°-50°	668.8	17.5
50°-60°	523.9	13.7
60°-70°	341.5	8.9
70°-80°	151.3	4.0
80°-90°	32.5	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°	1365.0	35.8
0°-40°	2098.1	55.0
0°-60°	3290.8	86.2
0°-90°	3816.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3816.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1944	1944	1944	1944	1944	
5°	1910	1908	1908	1906	1906	181
15°	1786	1786	1768	1751	1744	502
25°	1548	1539	1515	1461	1420	711
35°	1256	1247	1186	1097	1070	785
45°	964	944	863	791	760	743
55°	670	649	589	519	492	601
65°	398	375	339	346	288	392
75°	160	148	139	133	146	171
85°	22	25	27	29	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1943.8	1943.8	1943.8	1943.8	1943.8
2.5°	1930.3	1930.3	1930.3	1928.1	1928.1
5°	1910.1	1907.9	1907.9	1905.6	1905.6
7.5°	1894.4	1892.1	1889.9	1887.6	1883.1
10°	1871.9	1871.9	1869.7	1858.4	1856.2
12.5°	1836.0	1833.7	1824.7	1809.0	1804.5
15°	1786.5	1786.5	1768.5	1750.6	1743.8
17.5°	1732.6	1730.3	1707.9	1689.9	1680.9
20°	1674.2	1669.7	1647.2	1618.0	1602.2
22.5°	1609.0	1609.0	1582.0	1543.8	1528.1
25°	1548.3	1539.3	1514.6	1460.7	1420.2
27.5°	1478.7	1465.2	1438.2	1361.8	1314.6
30°	1402.2	1395.5	1357.3	1258.4	1222.5
32.5°	1330.3	1319.1	1278.7	1175.3	1146.1
35°	1256.2	1247.2	1186.5	1096.6	1069.7
37.5°	1182.0	1170.8	1094.4	1022.5	988.8
40°	1107.9	1094.4	1011.2	946.1	910.1
42.5°	1038.2	1020.2	939.3	869.7	829.2
45°	964.0	943.8	862.9	791.0	759.6
47.5°	889.9	871.9	797.8	723.6	687.6
50°	811.2	795.5	728.1	653.9	615.7
52.5°	746.1	721.3	656.2	582.0	550.6
55°	669.7	649.4	588.8	519.1	492.1
57.5°	600.0	579.8	523.6	458.4	436.0
60°	534.8	505.6	458.4	402.2	384.3
62.5°	462.9	440.4	400.0	352.8	375.3
65°	397.8	375.3	339.3	346.1	287.6
67.5°	325.8	314.6	283.1	251.7	242.7
70°	265.2	251.7	240.4	206.7	197.8
72.5°	211.2	197.8	182.0	164.0	157.3
75°	159.6	148.3	139.3	132.6	146.1
77.5°	110.1	105.6	98.9	92.1	89.9
80°	71.9	69.7	67.4	65.2	62.9
82.5°	42.7	42.7	42.7	42.7	42.7
85°	22.5	24.7	27.0	29.2	31.5
87.5°	13.5	13.5	15.7	18.0	20.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)