

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: NEO-RAY

Report Number: P735891

Luminaire Tested: S122DR-S865D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2019
Report Number: P735891
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 1/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DR-S865D840-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3841.8 lumens
Efficiency: N/A
Efficacy: 109.8 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

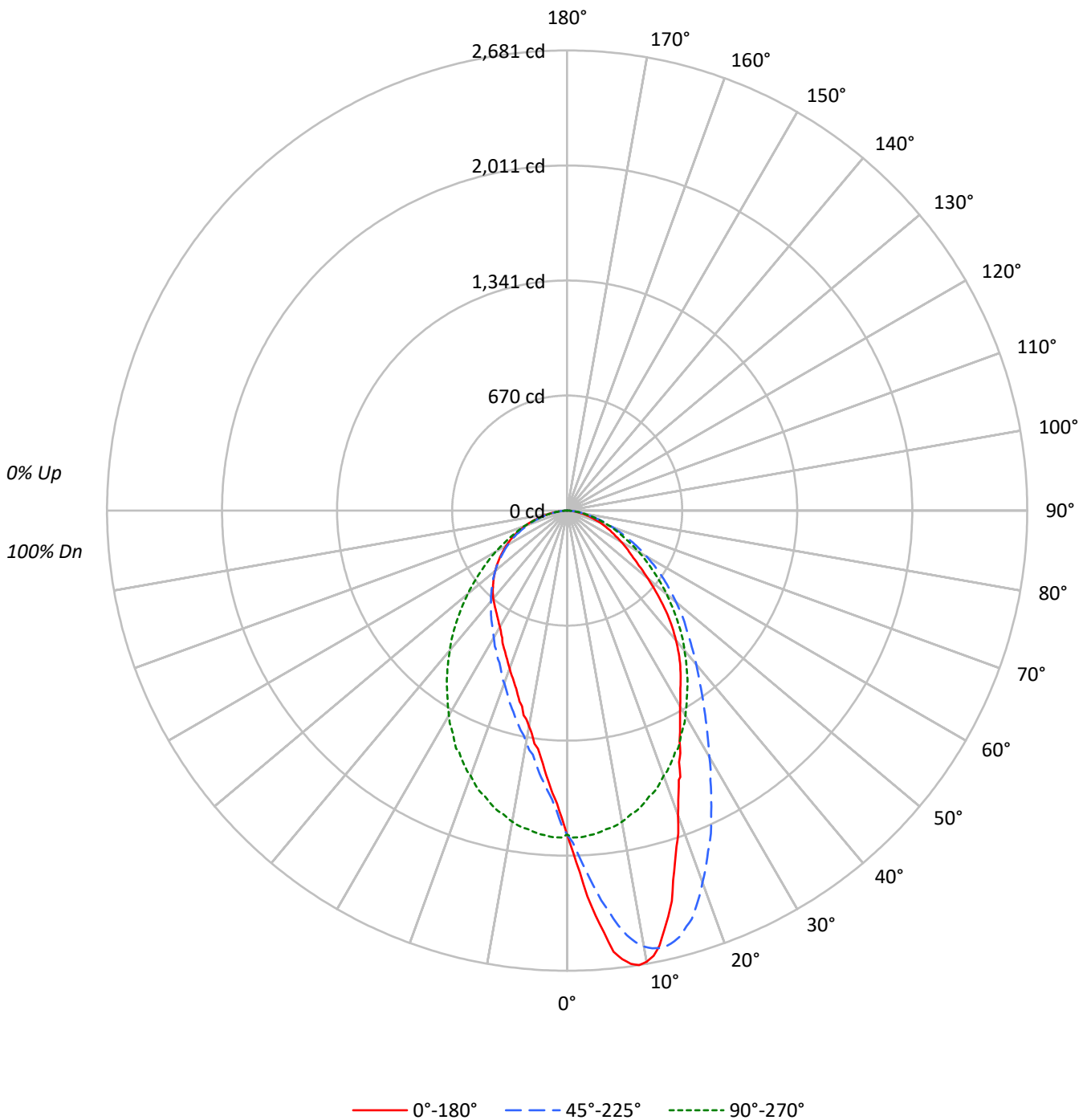
Input Watts (W): 35
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P735891

CATALOG NUMBER: S122DR-S865D840-X4F0-XX-UDD-W-W

Luminous Intensity Polar Plot



TEST NUMBER: P735891

CATALOG NUMBER: S122DR-S865D840-X4F0-XX-UDD-W-W

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	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74					74			
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64					64			
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56					56			
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49					49			
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44					44			
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39					39			
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35					35			
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32					32			
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30					30			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	36294	36294	36294	36294	36294
5°	47600	43994	36482	30598	29197
10°	52101	50354	35942	26747	24924
15°	46871	51002	34965	24146	22106
20°	38676	47171	33632	21899	20042
25°	33055	42082	32449	20256	18578
30°	29235	36752	30589	18981	17396
35°	27041	32553	28686	18089	16899
40°	24748	29372	26700	17323	16801
45°	21801	26811	24693	16791	16579
50°	18354	24721	22625	16336	16375
55°	15439	22744	20439	15787	16092
60°	13920	20555	18560	15316	15765
65°	12630	18061	16528	14577	15464
70°	11375	15607	14876	13493	14657
75°	9929	13204	12722	12239	13397
80°	8335	10339	10339	10626	11202
85°	6307	7432	7719	8292	8006

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 39369 cd/sqm

TEST NUMBER: P735891

CATALOG NUMBER: S122DR-S865D840-X4F0-XX-UDD-W-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.8	4.8
10°-20°	510.0	13.3
20°-30°	668.8	17.4
30°-40°	706.9	18.4
40°-50°	656.3	17.1
50°-60°	525.3	13.7
60°-70°	359.3	9.4
70°-80°	185.4	4.8
80°-90°	44.0	1.1
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°	1364.6	35.5
0°-40°	2071.5	53.9
0°-60°	3253.1	84.7
0°-90°	3841.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3841.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1888	1888	1888	1888	1888	
5°	2467	2280	1891	1586	1513	243
15°	2355	2563	1757	1213	1111	646
25°	1559	1984	1530	955	876	718
35°	1152	1387	1222	771	720	719
45°	802	986	908	618	610	616
55°	461	679	610	471	480	422
65°	278	397	363	320	340	275
75°	134	178	171	165	180	142
85°	29	34	35	38	36	35
90°	0	0	0	0	0	



TEST NUMBER: P735891

CATALOG NUMBER: S122DR-S865D840-X4F0-XX-UDD-W-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1888.2	1888.2	1888.2	1888.2	1888.2	1888.2	1888.2	1888.2	1888.2
1°	1992.0	1981.6	1936.2	1938.8	1905.1	1867.4	1832.4	1810.3	1792.2
2°	2108.8	2088.1	2016.7	1981.6	1905.1	1824.6	1751.9	1732.5	1707.8
3°	2250.3	2201.0	2102.3	2019.3	1902.5	1785.7	1685.8	1650.7	1646.8
4°	2364.5	2320.3	2189.3	2058.2	1896.0	1748.0	1635.1	1597.5	1579.3
5°	2467.0	2438.4	2280.1	2107.5	1890.8	1711.7	1585.8	1533.9	1513.2
6°	2585.1	2526.7	2352.8	2156.8	1881.7	1676.7	1541.7	1479.4	1450.9
7°	2633.1	2596.8	2434.5	2189.3	1870.0	1636.4	1485.9	1418.4	1397.7
8°	2666.8	2652.6	2499.4	2242.5	1864.8	1598.8	1436.6	1395.1	1370.4
9°	2681.1	2669.4	2546.2	2264.5	1855.8	1579.3	1411.9	1343.2	1315.9
10°	2669.4	2674.6	2579.9	2298.3	1841.5	1539.1	1370.4	1310.7	1277.0
11°	2642.2	2655.2	2598.1	2337.2	1823.3	1506.7	1332.8	1271.8	1239.3
12°	2590.3	2618.8	2605.8	2364.5	1806.4	1478.1	1306.8	1248.4	1219.9
13°	2509.8	2573.4	2600.7	2376.1	1796.1	1445.7	1274.4	1206.9	1170.6
14°	2437.1	2503.3	2586.4	2402.1	1777.9	1409.3	1244.5	1177.0	1145.9
15°	2355.4	2432.0	2563.0	2409.9	1757.1	1379.5	1213.4	1139.4	1110.9
16°	2241.2	2343.7	2520.2	2419.0	1732.5	1345.7	1184.8	1114.8	1077.1
17°	2146.5	2256.8	2487.8	2424.2	1719.5	1319.8	1160.2	1077.1	1052.5
18°	2059.5	2184.1	2429.4	2420.3	1698.7	1289.9	1123.8	1049.9	1026.5
19°	1990.7	2091.9	2371.0	2411.2	1670.2	1261.4	1096.6	1030.4	1003.1
20°	1890.8	2007.6	2306.1	2407.3	1644.2	1235.4	1070.6	1003.1	979.8
21°	1807.7	1927.1	2246.4	2394.3	1626.1	1210.8	1051.2	977.2	956.4
22.5°	1698.7	1803.8	2146.5	2369.7	1585.8	1169.3	1008.3	952.5	924.0
23°	1685.8	1775.3	2120.5	2361.9	1574.2	1160.2	994.1	938.3	914.9
24°	1604.0	1698.7	2059.5	2337.2	1544.3	1131.6	970.7	921.4	894.1
25°	1558.6	1636.4	1984.2	2313.9	1530.0	1105.7	955.1	899.3	876.0
26°	1495.0	1584.5	1916.8	2280.1	1498.9	1082.3	930.5	879.9	857.8
27°	1448.3	1523.5	1846.7	2255.5	1462.5	1057.7	911.0	860.4	833.1
28°	1402.8	1475.5	1779.2	2215.2	1436.6	1030.4	896.7	843.5	817.6
29°	1356.1	1419.7	1724.7	2184.1	1411.9	1007.0	874.7	821.5	796.8
30°	1317.2	1375.6	1655.9	2142.6	1378.2	979.8	855.2	805.9	783.8
32.5°	1227.7	1277.0	1515.8	2043.9	1297.7	925.3	808.5	763.1	750.1
35°	1152.4	1184.8	1387.3	1933.6	1222.5	866.9	770.9	726.7	720.2
37.5°	1073.2	1104.4	1270.5	1818.1	1143.3	813.7	728.0	699.5	694.3
40°	986.3	1027.8	1170.6	1703.9	1064.1	761.8	690.4	668.3	669.6
42.5°	899.3	947.3	1073.2	1570.3	990.2	712.5	654.1	638.5	641.1
45°	802.0	863.0	986.3	1448.3	908.4	665.7	617.7	609.9	609.9
47.5°	700.8	778.6	911.0	1322.4	830.5	619.0	582.7	577.5	580.1
50°	613.8	683.9	826.7	1200.4	756.6	576.2	546.3	545.0	547.6
52.5°	528.2	598.3	752.7	1086.2	681.3	537.3	511.3	511.3	513.9
55°	460.7	515.2	678.7	966.8	609.9	491.8	471.1	475.0	480.2
57.5°	414.0	450.3	606.0	852.6	543.8	447.7	434.7	437.3	443.8
60°	362.1	390.6	534.7	747.5	482.8	404.9	398.4	403.6	410.1
62.5°	315.3	340.0	467.2	652.8	416.6	363.4	360.8	368.6	375.0
65°	277.7	294.6	397.1	556.7	363.4	321.8	320.5	332.2	340.0



TEST NUMBER: P735891

CATALOG NUMBER: S122DR-S865D840-X4F0-XX-UDD-W-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	238.8	251.8	336.1	465.9	310.2	280.3	280.3	293.3	299.8
70°	202.4	212.8	277.7	384.1	264.7	238.8	240.1	255.7	260.8
72.5°	164.8	173.9	225.8	308.9	214.1	199.9	203.7	216.7	221.9
75°	133.7	140.2	177.8	244.0	171.3	159.6	164.8	176.5	180.4
77.5°	102.5	107.7	131.1	179.1	131.1	124.6	129.8	140.2	140.2
80°	75.3	76.6	93.4	125.9	93.4	89.5	96.0	101.2	101.2
82.5°	49.3	51.9	61.0	80.5	62.3	61.0	63.6	67.5	67.5
85°	28.6	29.8	33.7	44.1	35.0	35.0	37.6	37.6	36.3
87.5°	11.7	13.0	14.3	16.9	15.6	16.9	16.9	14.3	15.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)