

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P646672

Luminaire Tested: S123RDR-S1165D930-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646672
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2)
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-S1165D930-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC STANDARD LIGHT ENGINE
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

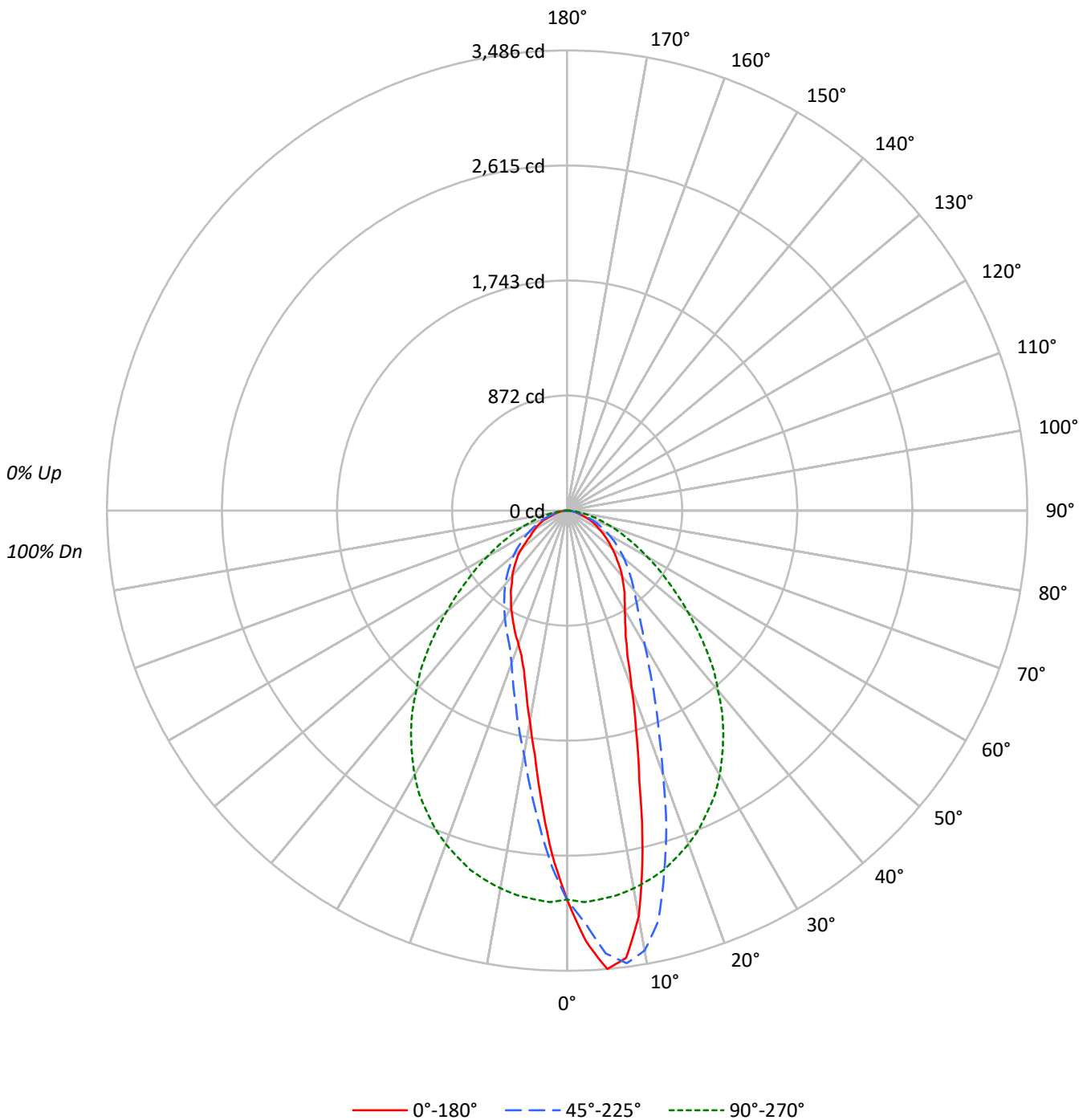
Lumens per Lamp: N/A
Luminaire Lumens: 3904.5 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 40.1
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: P646672
CATALOG NUMBER: S123RDR-S1165D930-X4F0-XX-UDD-G-W

Luminous Intensity Polar Plot





TEST NUMBER: P646672

CATALOG NUMBER: S123RDR-S1165D930-X4F0-XX-UDD-G-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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89				87	
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78				76	
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69				67	
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61				59	
5	82	70	62	56	80	69	62	56	67	61	56	65	60	55	63	58	54				53	
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49				47	
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45				43	
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41				39	
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38				36	
10	60	47	40	36	58	47	40	35	46	40	35	45	39	35	44	39	35				33	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	35510	35510	35510	35510	35510
5°	42164	40732	35734	28981	26819
10°	38202	41395	35555	22944	19855
15°	26302	35452	35181	18841	15706
20°	18298	27191	34473	15788	13805
25°	13944	20868	33447	14104	12723
30°	12138	16408	32160	13113	11784
35°	11144	13811	30339	12228	10931
40°	10169	12391	27958	11479	10150
45°	9183	11345	25388	10665	9369
50°	8336	10533	22356	9922	8403
55°	7539	9672	19444	9062	7210
60°	6755	8793	16888	8299	6815
65°	6235	7821	14538	7373	6443
70°	5066	6683	12686	6683	5235
75°	4446	5400	10745	5568	4614
80°	4025	4531	8805	4698	4358
85°	3677	3843	6677	4175	4009

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°

Vertical Angle: 45°

Luminance: 26787 cd/sqm



TEST NUMBER: P646672

CATALOG NUMBER: S123RDR-S1165D930-X4F0-XX-UDD-G-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.6	6.9
10°-20°	621.5	15.9
20°-30°	713.0	18.3
30°-40°	702.3	18.0
40°-50°	619.0	15.9
50°-60°	476.4	12.2
60°-70°	313.3	8.0
70°-80°	152.1	3.9
80°-90°	38.4	1.0
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°	1603.0	41.1
0°-40°	2305.3	59.0
0°-60°	3400.7	87.1
0°-90°	3904.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3904.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2947	2947	2947	2947	2947	
5°	3486	3368	2954	2396	2217	319
15°	2108	2842	2820	1510	1259	595
25°	1049	1570	2516	1061	957	495
35°	758	939	2063	831	743	472
45°	539	666	1490	626	550	418
55°	359	460	926	431	343	322
65°	219	274	510	259	226	214
75°	96	116	231	120	99	103
85°	27	28	48	30	29	30
90°	0	0	0	0	0	



TEST NUMBER: P646672

CATALOG NUMBER: S123RDR-S1165D930-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1
2.5°	3266.1	3245.6	3239.5	3232.3	3220.2	3176.7	3127.2	3132.0	3126.0	3088.5	3068.0
5°	3486.0	3488.5	3482.4	3477.6	3457.0	3403.9	3367.6	3345.9	3300.0	3229.9	3208.1
7.5°	3418.4	3457.0	3464.3	3472.8	3483.6	3471.5	3458.3	3449.8	3412.3	3336.2	3301.2
10°	3122.3	3119.9	3163.4	3198.5	3292.7	3359.2	3383.3	3418.4	3449.8	3396.6	3358.0
12.5°	2639.0	2642.6	2785.2	2785.2	2907.3	3076.4	3185.2	3258.9	3394.2	3397.8	3374.9
15°	2108.5	2167.8	2294.6	2321.2	2478.3	2705.5	2842.0	2994.3	3256.5	3338.6	3333.8
17.5°	1731.5	1756.9	1879.0	1914.0	2053.0	2310.3	2498.8	2682.5	3049.8	3222.6	3254.0
20°	1427.0	1450.0	1538.2	1564.8	1705.0	1950.3	2120.6	2318.8	2799.7	3064.3	3119.9
22.5°	1191.4	1236.1	1295.3	1336.4	1416.2	1666.3	1812.5	2002.2	2509.7	2886.7	2952.0
25°	1048.8	1069.4	1120.1	1139.5	1236.1	1401.7	1569.6	1736.4	2252.3	2664.4	2779.2
27.5°	952.2	958.2	995.7	1012.6	1070.6	1224.0	1344.9	1499.5	1990.1	2436.0	2570.1
30°	872.4	883.3	912.3	915.9	966.7	1075.4	1179.3	1321.9	1760.5	2214.9	2352.6
32.5°	810.8	816.8	841.0	848.3	880.9	966.7	1051.3	1155.2	1547.9	1984.1	2142.4
35°	757.6	758.8	777.0	786.6	815.6	886.9	938.9	1025.9	1377.5	1793.2	1932.1
37.5°	697.2	705.7	719.0	727.4	752.8	810.8	857.9	925.6	1220.4	1611.9	1741.2
40°	646.5	653.7	669.4	673.0	696.0	749.2	787.8	848.3	1085.1	1437.9	1569.6
42.5°	595.7	600.5	616.3	623.5	648.9	691.2	726.2	773.3	977.5	1283.3	1412.5
45°	538.9	551.0	567.9	571.5	595.7	639.2	665.8	709.3	880.9	1149.1	1263.9
47.5°	491.8	497.8	512.3	518.4	546.2	584.8	612.6	650.1	797.5	1027.1	1139.5
50°	444.7	447.1	460.4	468.8	490.6	535.3	561.9	595.7	721.4	928.0	1006.5
52.5°	400.0	406.0	419.3	425.3	439.8	485.8	509.9	545.0	648.9	826.5	905.0
55°	358.9	362.5	372.2	379.4	396.3	436.2	460.4	490.6	586.0	733.5	802.3
57.5°	320.2	325.0	332.3	338.3	354.0	389.1	413.3	443.5	526.8	648.9	702.0
60°	280.3	286.4	294.8	297.3	311.8	343.2	364.9	391.5	466.4	570.3	617.5
62.5°	251.3	252.5	259.8	263.4	271.9	297.3	320.2	345.6	412.0	494.2	532.9
65°	218.7	222.3	226.0	228.4	235.6	257.4	274.3	293.6	358.9	430.2	456.8
67.5°	184.9	188.5	194.5	197.0	203.0	217.5	232.0	251.3	305.7	366.1	390.3
70°	143.8	143.8	153.5	158.3	168.0	178.8	189.7	206.6	253.8	305.7	323.8
72.5°	117.2	118.4	119.6	119.6	128.1	146.2	152.3	163.1	200.6	250.1	265.8
75°	95.5	96.7	97.9	99.1	100.3	106.3	116.0	125.7	153.5	189.7	204.2
77.5°	76.1	77.3	78.5	78.5	81.0	83.4	85.8	90.6	110.0	136.5	148.6
80°	58.0	59.2	60.4	60.4	61.6	64.0	65.3	67.7	73.7	91.8	97.9
82.5°	42.3	42.3	42.3	43.5	44.7	44.7	47.1	47.1	50.8	55.6	59.2
85°	26.6	26.6	27.8	27.8	27.8	29.0	27.8	29.0	30.2	31.4	33.8
87.5°	12.1	10.9	12.1	12.1	12.1	13.3	13.3	13.3	13.3	14.5	14.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P646672

CATALOG NUMBER: S123RDR-S1165D930-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1	2947.1
2.5°	3011.2	2968.9	2897.6	2852.9	2836.0	2784.0	2734.5	2693.4	2672.8	2670.4	2633.0
5°	3070.4	2954.4	2807.0	2683.7	2654.7	2564.1	2446.9	2396.1	2329.7	2303.1	2271.7
7.5°	3118.7	2937.5	2720.0	2533.9	2479.5	2343.0	2193.1	2126.7	2075.9	1996.2	1949.0
10°	3152.5	2906.0	2613.6	2373.2	2295.8	2136.3	1955.1	1875.3	1828.2	1736.4	1698.9
12.5°	3165.8	2866.2	2507.3	2206.4	2138.8	1949.0	1771.4	1689.3	1619.2	1535.8	1499.5
15°	3161.0	2820.3	2398.5	2053.0	1968.4	1776.3	1587.8	1510.4	1445.2	1361.8	1314.7
17.5°	3128.4	2755.0	2280.1	1904.3	1823.4	1625.2	1434.3	1363.0	1305.0	1224.0	1187.8
20°	3074.0	2688.5	2176.2	1769.0	1677.2	1487.5	1307.4	1231.3	1180.5	1137.0	1110.5
22.5°	2999.1	2610.0	2049.3	1634.9	1555.1	1364.2	1191.4	1129.8	1099.6	1064.5	1045.2
25°	2885.5	2515.8	1934.5	1522.5	1442.8	1253.0	1102.0	1060.9	1030.7	1007.8	987.2
27.5°	2763.5	2425.1	1819.8	1408.9	1334.0	1152.8	1031.9	1000.5	973.9	944.9	926.8
30°	2622.1	2311.5	1711.0	1308.6	1236.1	1071.8	971.5	942.5	920.8	889.3	871.2
32.5°	2455.3	2187.1	1609.5	1212.0	1144.3	1001.7	915.9	884.5	866.4	836.2	818.0
35°	2282.5	2062.6	1498.3	1122.5	1060.9	940.1	861.5	831.3	812.0	781.8	763.7
37.5°	2113.4	1929.7	1399.3	1044.0	988.4	878.5	804.8	779.4	761.3	729.8	708.1
40°	1934.5	1777.5	1302.6	970.3	918.3	824.1	752.8	729.8	705.7	677.9	656.1
42.5°	1747.3	1643.3	1213.2	905.0	856.7	770.9	700.8	676.7	656.1	623.5	613.8
45°	1572.0	1489.9	1118.9	836.2	797.5	717.8	650.1	625.9	603.0	575.2	565.5
47.5°	1416.2	1340.0	1033.1	775.8	737.1	665.8	599.3	574.0	557.0	535.3	520.8
50°	1255.5	1192.6	938.9	716.5	680.3	610.2	546.2	529.3	509.9	483.3	472.5
52.5°	1105.6	1057.3	861.5	659.8	625.9	563.1	497.8	480.9	462.8	439.8	424.1
55°	973.9	925.6	773.3	595.7	570.3	511.1	453.1	431.4	416.9	390.3	371.0
57.5°	838.6	815.6	688.8	542.5	518.4	459.2	407.2	390.3	372.2	343.2	323.8
60°	727.4	700.8	610.2	484.5	461.6	412.0	361.3	344.4	327.5	299.7	291.2
62.5°	622.3	603.0	534.1	430.2	410.8	362.5	317.8	302.1	285.2	267.0	261.0
65°	526.8	509.9	458.0	374.6	358.9	316.6	275.5	258.6	247.7	239.3	233.2
67.5°	437.4	427.8	387.9	322.6	310.5	273.1	236.8	223.5	217.5	207.8	203.0
70°	356.5	360.1	323.8	275.5	262.2	232.0	200.6	189.7	182.5	174.0	164.3
72.5°	291.2	290.0	268.3	224.8	215.1	190.9	166.8	159.5	151.0	134.1	123.3
75°	226.0	230.8	210.3	186.1	176.4	152.3	129.3	119.6	111.2	105.1	101.5
77.5°	172.8	175.2	165.5	142.6	134.1	113.6	95.5	90.6	87.0	83.4	82.2
80°	123.3	126.9	117.2	102.7	95.5	78.5	68.9	67.7	66.5	64.0	62.8
82.5°	79.8	84.6	79.8	64.0	60.4	52.0	49.5	49.5	48.3	47.1	45.9
85°	43.5	48.3	45.9	37.5	35.0	32.6	31.4	30.2	30.2	30.2	30.2
87.5°	16.9	23.0	19.3	15.7	15.7	15.7	15.7	15.7	15.7	15.7	15.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P646672

CATALOG NUMBER: S123RDR-S1165D930-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2947.1	2947.1	2947.1
2.5°	2624.5	2612.4	2607.6
5°	2263.2	2225.8	2217.3
7.5°	1934.5	1918.8	1866.9
10°	1692.9	1644.5	1622.8
12.5°	1475.4	1430.7	1423.4
15°	1301.4	1270.0	1259.1
17.5°	1186.6	1164.8	1151.5
20°	1102.0	1086.3	1076.6
22.5°	1038.0	1025.9	1018.6
25°	981.2	963.0	957.0
27.5°	923.2	907.5	901.4
30°	868.8	855.5	847.0
32.5°	812.0	796.3	791.5
35°	757.6	748.0	743.1
37.5°	704.5	692.4	685.1
40°	654.9	648.9	645.3
42.5°	610.2	599.3	598.1
45°	563.1	552.2	549.8
47.5°	518.4	508.7	507.5
50°	471.3	458.0	448.3
52.5°	414.5	402.4	393.9
55°	363.7	350.4	343.2
57.5°	321.4	315.4	311.8
60°	288.8	285.2	282.8
62.5°	259.8	256.2	256.2
65°	233.2	229.6	226.0
67.5°	200.6	193.3	192.1
70°	160.7	149.8	148.6
72.5°	122.0	120.8	118.4
75°	101.5	99.1	99.1
77.5°	82.2	79.8	79.8
80°	62.8	61.6	62.8
82.5°	45.9	45.9	44.7
85°	30.2	29.0	29.0
87.5°	14.5	14.5	14.5
90°	0.0	0.0	0.0

(END OF REPORT)