

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: P646663

Luminaire Tested: S123RDR-S1000D930-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646663
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-S1000D930-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

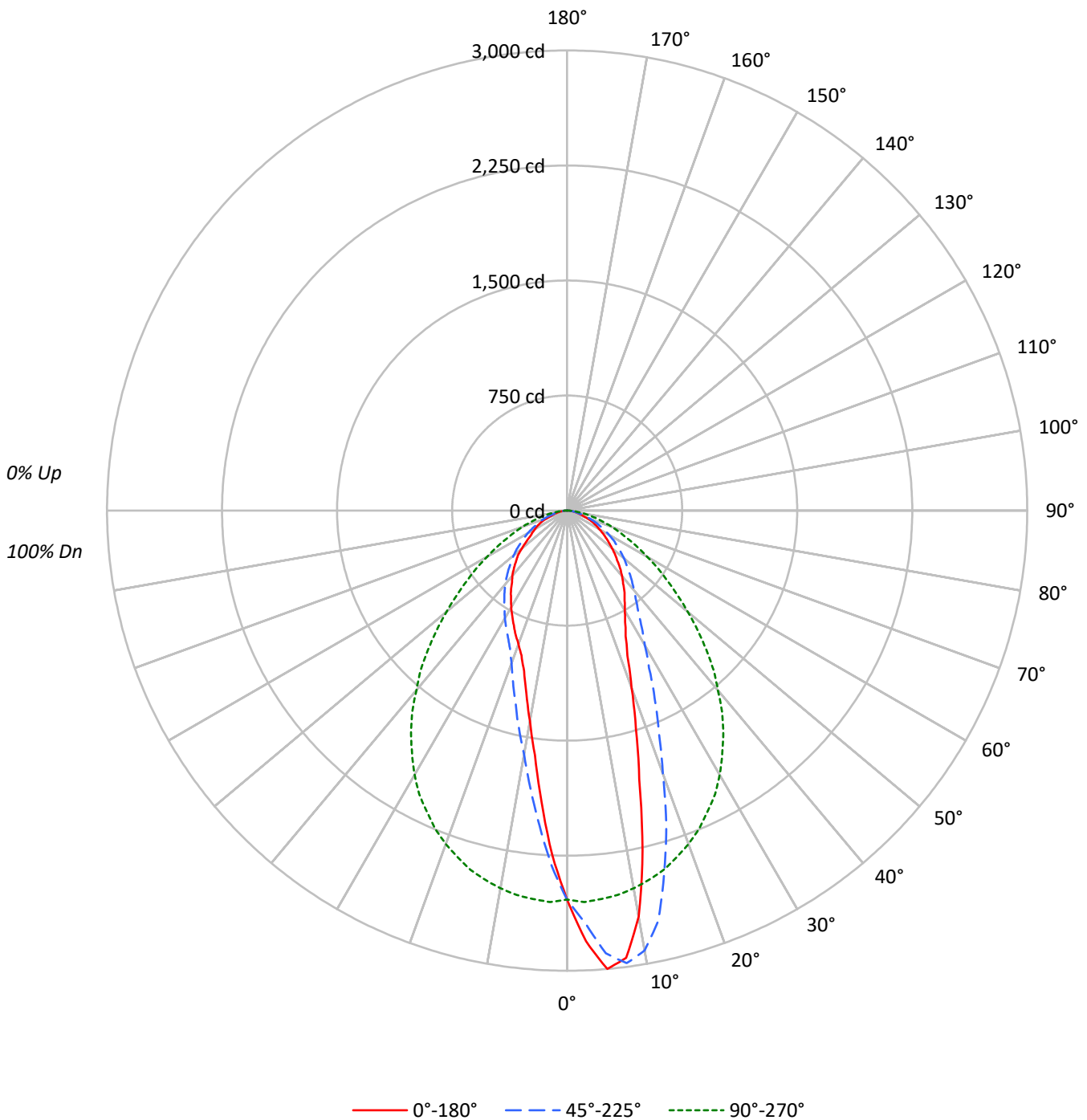
Lumens per Lamp: N/A
Luminaire Lumens: 3359.6 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 34.5
Input Voltage (V): 120
Input Current (A_{in}): 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	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°	30554	30554	30554	30554	30554
5°	36281	35048	30747	24937	23076
10°	32871	35619	30594	19742	17084
15°	22632	30504	30271	16212	13515
20°	15745	23397	29662	13585	11879
25°	11999	17956	28779	12137	10947
30°	10445	14119	27673	11284	10140
35°	9589	11884	26106	10522	9405
40°	8749	10663	24056	9878	8733
45°	7901	9762	21845	9178	8062
50°	7172	9063	19236	8537	7230
55°	6487	8321	16730	7798	6203
60°	5813	7567	14531	7140	5863
65°	5366	6729	12511	6344	5542
70°	4358	5749	10914	5749	4506
75°	3822	4646	9246	4790	3971
80°	3462	3893	7577	4038	3754
85°	3166	3304	5751	3594	3456

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°

Vertical Angle: 45°

Luminance: 23050 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.1	6.9
10°-20°	534.7	15.9
20°-30°	613.5	18.3
30°-40°	604.3	18.0
40°-50°	532.6	15.9
50°-60°	409.9	12.2
60°-70°	269.5	8.0
70°-80°	130.9	3.9
80°-90°	33.0	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°	1379.3	41.1
0°-40°	1983.6	59.0
0°-60°	2926.2	87.1
0°-90°	3359.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3359.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2536	2536	2536	2536	2536	
5°	3000	2898	2542	2062	1908	274
15°	1814	2445	2427	1300	1083	512
25°	902	1351	2165	913	823	426
35°	652	808	1775	715	639	406
45°	464	573	1282	539	473	360
55°	309	396	796	371	295	277
65°	188	236	439	222	194	184
75°	82	100	199	103	85	88
85°	23	24	42	26	25	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8
2.5°	2810.3	2792.7	2787.5	2781.2	2770.8	2733.4	2690.8	2694.9	2689.7	2657.5	2639.8
5°	2999.6	3001.6	2996.4	2992.3	2974.6	2928.9	2897.7	2878.9	2839.4	2779.1	2760.4
7.5°	2941.3	2974.6	2980.8	2988.1	2997.5	2987.1	2975.6	2968.4	2936.1	2870.6	2840.5
10°	2686.6	2684.5	2722.0	2752.1	2833.2	2890.4	2911.2	2941.3	2968.4	2922.6	2889.3
12.5°	2270.7	2273.8	2396.5	2396.5	2501.5	2647.1	2740.7	2804.1	2920.5	2923.7	2903.9
15°	1814.3	1865.2	1974.4	1997.3	2132.4	2327.9	2445.4	2576.4	2802.0	2872.7	2868.6
17.5°	1489.9	1511.7	1616.7	1646.9	1766.5	1987.9	2150.1	2308.1	2624.2	2772.9	2799.9
20°	1227.9	1247.6	1323.5	1346.4	1467.0	1678.1	1824.7	1995.2	2409.0	2636.7	2684.5
22.5°	1025.2	1063.6	1114.6	1149.9	1218.5	1433.8	1559.6	1722.8	2159.5	2483.9	2540.0
25°	902.5	920.1	963.8	980.4	1063.6	1206.1	1350.6	1494.1	1938.0	2292.6	2391.3
27.5°	819.3	824.5	856.7	871.3	921.2	1053.2	1157.2	1290.3	1712.4	2096.0	2211.5
30°	750.7	760.0	785.0	788.1	831.8	925.3	1014.8	1137.4	1514.9	1905.8	2024.3
32.5°	697.6	702.8	723.6	729.9	757.9	831.8	904.5	994.0	1331.9	1707.2	1843.4
35°	651.9	652.9	668.5	676.8	701.8	763.1	807.9	882.7	1185.3	1542.9	1662.5
37.5°	599.9	607.2	618.6	625.9	647.7	697.6	738.2	796.4	1050.1	1387.0	1498.2
40°	556.2	562.5	576.0	579.1	598.9	644.6	677.9	729.9	933.7	1237.3	1350.6
42.5°	512.6	516.7	530.3	536.5	558.3	594.7	624.9	665.4	841.1	1104.2	1215.4
45°	463.7	474.1	488.7	491.8	512.6	550.0	572.9	610.3	757.9	988.8	1087.5
47.5°	423.2	428.4	440.8	446.0	469.9	503.2	527.1	559.4	686.2	883.8	980.4
50°	382.6	384.7	396.1	403.4	422.1	460.6	483.5	512.6	620.7	798.5	866.1
52.5°	344.1	349.3	360.8	366.0	378.5	418.0	438.8	468.9	558.3	711.2	778.7
55°	308.8	311.9	320.2	326.5	341.0	375.3	396.1	422.1	504.3	631.1	690.4
57.5°	275.5	279.7	285.9	291.1	304.6	334.8	355.6	381.6	453.3	558.3	604.1
60°	241.2	246.4	253.7	255.8	268.2	295.3	314.0	336.9	401.3	490.7	531.3
62.5°	216.3	217.3	223.5	226.7	233.9	255.8	275.5	297.4	354.5	425.2	458.5
65°	188.2	191.3	194.4	196.5	202.7	221.5	236.0	252.6	308.8	370.1	393.0
67.5°	159.1	162.2	167.4	169.5	174.7	187.1	199.6	216.3	263.0	315.0	335.8
70°	123.7	123.7	132.0	136.2	144.5	153.9	163.2	177.8	218.3	263.0	278.6
72.5°	100.9	101.9	102.9	102.9	110.2	125.8	131.0	140.4	172.6	215.2	228.7
75°	82.1	83.2	84.2	85.3	86.3	91.5	99.8	108.1	132.0	163.2	175.7
77.5°	65.5	66.5	67.6	67.6	69.7	71.7	73.8	78.0	94.6	117.5	127.9
80°	49.9	50.9	52.0	52.0	53.0	55.1	56.1	58.2	63.4	79.0	84.2
82.5°	36.4	36.4	36.4	37.4	38.5	38.5	40.5	40.5	43.7	47.8	50.9
85°	22.9	22.9	23.9	23.9	23.9	25.0	23.9	25.0	26.0	27.0	29.1
87.5°	10.4	9.4	10.4	10.4	10.4	11.4	11.4	11.4	11.4	12.5	12.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8	2535.8
2.5°	2590.9	2554.6	2493.2	2454.7	2440.2	2395.5	2352.9	2317.5	2299.8	2297.8	2265.5
5°	2641.9	2542.1	2415.2	2309.2	2284.2	2206.3	2105.4	2061.7	2004.6	1981.7	1954.6
7.5°	2683.5	2527.5	2340.4	2180.3	2133.5	2016.0	1887.1	1829.9	1786.2	1717.6	1677.0
10°	2712.6	2500.5	2248.9	2042.0	1975.4	1838.2	1682.2	1613.6	1573.1	1494.1	1461.8
12.5°	2724.0	2466.2	2157.4	1898.5	1840.3	1677.0	1524.2	1453.5	1393.2	1321.5	1290.3
15°	2719.9	2426.7	2063.8	1766.5	1693.7	1528.4	1366.2	1299.6	1243.5	1171.7	1131.2
17.5°	2691.8	2370.5	1961.9	1638.6	1568.9	1398.4	1234.1	1172.8	1122.9	1053.2	1022.0
20°	2645.0	2313.3	1872.5	1522.1	1443.1	1279.9	1125.0	1059.5	1015.8	978.4	955.5
22.5°	2580.6	2245.8	1763.3	1406.7	1338.1	1173.8	1025.2	972.1	946.1	916.0	899.3
25°	2482.8	2164.7	1664.6	1310.0	1241.4	1078.2	948.2	912.9	886.9	867.1	849.4
27.5°	2377.8	2086.7	1565.8	1212.3	1147.8	991.9	887.9	860.9	838.0	813.1	797.5
30°	2256.2	1989.0	1472.2	1126.0	1063.6	922.2	835.9	811.0	792.3	765.2	749.6
32.5°	2112.7	1881.9	1384.9	1042.8	984.6	861.9	788.1	761.1	745.5	719.5	703.9
35°	1964.0	1774.8	1289.2	965.9	912.9	808.9	741.3	715.3	698.7	672.7	657.1
37.5°	1818.4	1660.4	1204.0	898.3	850.5	755.9	692.4	670.6	655.0	628.0	609.3
40°	1664.6	1529.4	1120.8	834.9	790.2	709.1	647.7	628.0	607.2	583.3	564.6
42.5°	1503.4	1414.0	1043.9	778.7	737.2	663.3	603.0	582.2	564.6	536.5	528.2
45°	1352.7	1282.0	962.8	719.5	686.2	617.6	559.4	538.6	518.8	494.9	486.6
47.5°	1218.5	1153.0	888.9	667.5	634.2	572.9	515.7	493.9	479.3	460.6	448.1
50°	1080.3	1026.2	807.9	616.5	585.4	525.1	469.9	455.4	438.8	415.9	406.5
52.5°	951.3	909.7	741.3	567.7	538.6	484.5	428.4	413.8	398.2	378.5	364.9
55°	838.0	796.4	665.4	512.6	490.7	439.8	389.9	371.2	358.7	335.8	319.2
57.5°	721.6	701.8	592.6	466.8	446.0	395.1	350.4	335.8	320.2	295.3	278.6
60°	625.9	603.0	525.1	416.9	397.2	354.5	310.9	296.3	281.8	257.8	250.6
62.5°	535.4	518.8	459.6	370.1	353.5	311.9	273.4	259.9	245.4	229.8	224.6
65°	453.3	438.8	394.0	322.3	308.8	272.4	237.1	222.5	213.1	205.9	200.7
67.5°	376.4	368.1	333.7	277.6	267.2	235.0	203.8	192.3	187.1	178.8	174.7
70°	306.7	309.8	278.6	237.1	225.6	199.6	172.6	163.2	157.0	149.7	141.4
72.5°	250.6	249.5	230.8	193.4	185.1	164.3	143.5	137.2	130.0	115.4	106.1
75°	194.4	198.6	180.9	160.1	151.8	131.0	111.2	102.9	95.7	90.5	87.3
77.5°	148.7	150.8	142.4	122.7	115.4	97.7	82.1	78.0	74.9	71.7	70.7
80°	106.1	109.2	100.9	88.4	82.1	67.6	59.3	58.2	57.2	55.1	54.1
82.5°	68.6	72.8	68.6	55.1	52.0	44.7	42.6	42.6	41.6	40.5	39.5
85°	37.4	41.6	39.5	32.2	30.2	28.1	27.0	26.0	26.0	26.0	26.0
87.5°	14.6	19.8	16.6	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2535.8	2535.8	2535.8
2.5°	2258.2	2247.8	2243.7
5°	1947.4	1915.1	1907.9
7.5°	1664.6	1651.1	1606.3
10°	1456.6	1415.0	1396.3
12.5°	1269.5	1231.0	1224.8
15°	1119.8	1092.7	1083.4
17.5°	1021.0	1002.3	990.8
20°	948.2	934.7	926.4
22.5°	893.1	882.7	876.5
25°	844.2	828.6	823.4
27.5°	794.3	780.8	775.6
30°	747.5	736.1	728.8
32.5°	698.7	685.2	681.0
35°	651.9	643.6	639.4
37.5°	606.1	595.8	589.5
40°	563.5	558.3	555.2
42.5°	525.1	515.7	514.7
45°	484.5	475.1	473.1
47.5°	446.0	437.7	436.7
50°	405.5	394.0	385.7
52.5°	356.6	346.2	338.9
55°	313.0	301.5	295.3
57.5°	276.6	271.4	268.2
60°	248.5	245.4	243.3
62.5°	223.5	220.4	220.4
65°	200.7	197.5	194.4
67.5°	172.6	166.4	165.3
70°	138.3	128.9	127.9
72.5°	105.0	104.0	101.9
75°	87.3	85.3	85.3
77.5°	70.7	68.6	68.6
80°	54.1	53.0	54.1
82.5°	39.5	39.5	38.5
85°	26.0	25.0	25.0
87.5°	12.5	12.5	12.5
90°	0.0	0.0	0.0

(END OF REPORT)