

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: P646689

Luminaire Tested: S123RDR-S560D927-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646689
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-S560D927-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC STANDARD LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

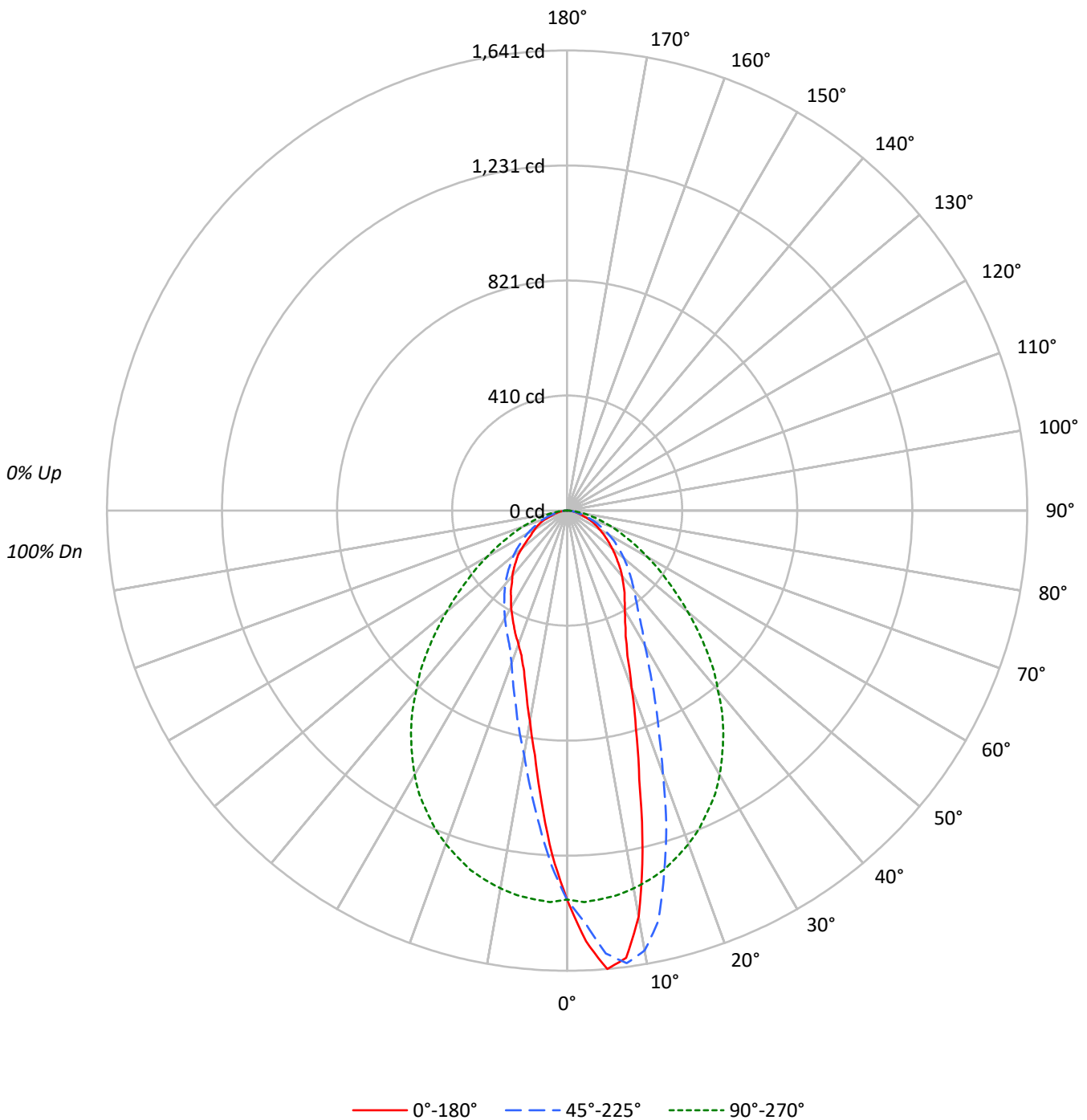
Lumens per Lamp: N/A
Luminaire Lumens: 1838.0 lumens
Efficiency: N/A
Efficacy: 98.8 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 18.6
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: P646689
CATALOG NUMBER: S123RDR-S560D927-X4F0-XX-UDD-G-W

Luminous Intensity Polar Plot





TEST NUMBER: P646689

CATALOG NUMBER: S123RDR-S560D927-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°	16716	16716	16716	16716	16716
5°	19848	19175	16821	13642	12625
10°	17983	19487	16738	10801	9346
15°	12382	16688	16561	8869	7393
20°	8614	12801	16228	7432	6498
25°	6564	9824	15745	6639	5989
30°	5714	7725	15139	6173	5547
35°	5245	6502	14283	5756	5145
40°	4786	5834	13161	5405	4777
45°	4323	5340	11950	5020	4410
50°	3923	4958	10524	4669	3955
55°	3548	4552	9153	4267	3393
60°	3181	4140	7950	3906	3207
65°	2937	3681	6843	3470	3034
70°	2385	3146	5971	3146	2466
75°	2090	2542	5056	2621	2169
80°	1894	2130	4142	2213	2054
85°	1728	1811	3152	1963	1894

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 12610 cd/sqm



TEST NUMBER: P646689

CATALOG NUMBER: S123RDR-S560D927-X4F0-XX-UDD-G-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.4	6.9
10°-20°	292.5	15.9
20°-30°	335.6	18.3
30°-40°	330.6	18.0
40°-50°	291.4	15.9
50°-60°	224.3	12.2
60°-70°	147.5	8.0
70°-80°	71.6	3.9
80°-90°	18.1	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°	754.6	41.1
0°-40°	1085.2	59.0
0°-60°	1600.8	87.1
0°-90°	1838.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1838.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1387	1387	1387	1387	1387	
5°	1641	1585	1391	1128	1044	150
15°	993	1338	1328	711	593	280
25°	494	739	1184	499	450	233
35°	357	442	971	391	350	222
45°	254	313	701	295	259	197
55°	169	217	436	203	162	152
65°	103	129	240	122	106	101
75°	45	55	109	56	47	48
85°	12	13	23	14	14	14
90°	0	0	0	0	0	



TEST NUMBER: P646689

CATALOG NUMBER: S123RDR-S560D927-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3
2.5°	1537.5	1527.8	1525.0	1521.6	1515.9	1495.4	1472.1	1474.3	1471.5	1453.9	1444.2
5°	1641.0	1642.1	1639.3	1637.0	1627.4	1602.3	1585.3	1575.0	1553.4	1520.4	1510.2
7.5°	1609.2	1627.4	1630.8	1634.8	1639.9	1634.2	1627.9	1623.9	1606.3	1570.5	1554.0
10°	1469.8	1468.7	1489.1	1505.6	1550.0	1581.3	1592.7	1609.2	1623.9	1598.9	1580.7
12.5°	1242.3	1244.0	1311.1	1311.1	1368.6	1448.2	1499.4	1534.1	1597.8	1599.5	1588.7
15°	992.6	1020.4	1080.2	1092.7	1166.6	1273.6	1337.8	1409.5	1532.9	1571.6	1569.3
17.5°	815.1	827.0	884.5	901.0	966.4	1087.6	1176.3	1262.8	1435.7	1517.0	1531.8
20°	671.8	682.6	724.1	736.6	802.6	918.1	998.3	1091.5	1317.9	1442.5	1468.7
22.5°	560.8	581.9	609.8	629.1	666.6	784.4	853.2	942.5	1181.4	1358.9	1389.6
25°	493.7	503.4	527.3	536.4	581.9	659.8	738.9	817.4	1060.3	1254.2	1308.3
27.5°	448.2	451.1	468.7	476.7	504.0	576.2	633.1	705.9	936.8	1146.7	1209.9
30°	410.7	415.8	429.4	431.2	455.0	506.2	555.2	622.3	828.8	1042.6	1107.5
32.5°	381.7	384.5	395.9	399.3	414.7	455.0	494.9	543.8	728.6	934.0	1008.5
35°	356.6	357.2	365.7	370.3	383.9	417.5	442.0	482.9	648.4	844.1	909.5
37.5°	328.2	332.2	338.4	342.4	354.4	381.7	403.9	435.7	574.5	758.8	819.7
40°	304.3	307.7	315.1	316.8	327.6	352.7	370.9	399.3	510.8	676.9	738.9
42.5°	280.4	282.7	290.1	293.5	305.4	325.4	341.9	364.0	460.2	604.1	664.9
45°	253.7	259.4	267.3	269.0	280.4	300.9	313.4	333.9	414.7	540.9	595.0
47.5°	231.5	234.3	241.2	244.0	257.1	275.3	288.4	306.0	375.4	483.5	536.4
50°	209.3	210.5	216.7	220.7	230.9	252.0	264.5	280.4	339.6	436.8	473.8
52.5°	188.3	191.1	197.4	200.2	207.0	228.7	240.0	256.5	305.4	389.1	426.0
55°	168.9	170.6	175.2	178.6	186.6	205.3	216.7	230.9	275.9	345.3	377.7
57.5°	150.7	153.0	156.4	159.3	166.7	183.2	194.5	208.8	248.0	305.4	330.5
60°	132.0	134.8	138.8	139.9	146.8	161.5	171.8	184.3	219.6	268.5	290.7
62.5°	118.3	118.9	122.3	124.0	128.0	139.9	150.7	162.7	194.0	232.6	250.8
65°	103.0	104.7	106.4	107.5	110.9	121.2	129.1	138.2	168.9	202.5	215.0
67.5°	87.0	88.7	91.6	92.7	95.6	102.4	109.2	118.3	143.9	172.3	183.7
70°	67.7	67.7	72.2	74.5	79.1	84.2	89.3	97.3	119.4	143.9	152.4
72.5°	55.2	55.7	56.3	56.3	60.3	68.8	71.7	76.8	94.4	117.7	125.1
75°	44.9	45.5	46.1	46.6	47.2	50.1	54.6	59.2	72.2	89.3	96.1
77.5°	35.8	36.4	37.0	37.0	38.1	39.2	40.4	42.7	51.8	64.3	70.0
80°	27.3	27.9	28.4	28.4	29.0	30.1	30.7	31.9	34.7	43.2	46.1
82.5°	19.9	19.9	19.9	20.5	21.0	21.0	22.2	22.2	23.9	26.2	27.9
85°	12.5	12.5	13.1	13.1	13.1	13.7	13.1	13.7	14.2	14.8	15.9
87.5°	5.7	5.1	5.7	5.7	5.7	6.3	6.3	6.3	6.3	6.8	6.8
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: P646689

CATALOG NUMBER: S123RDR-S560D927-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3	1387.3
2.5°	1417.5	1397.6	1364.0	1343.0	1335.0	1310.5	1287.2	1267.9	1258.2	1257.1	1239.4
5°	1445.3	1390.7	1321.3	1263.3	1249.7	1207.0	1151.8	1127.9	1096.7	1084.1	1069.4
7.5°	1468.1	1382.8	1280.4	1192.8	1167.2	1102.9	1032.4	1001.1	977.2	939.7	917.5
10°	1484.0	1368.0	1230.3	1117.1	1080.7	1005.7	920.3	882.8	860.6	817.4	799.7
12.5°	1490.3	1349.2	1180.3	1038.6	1006.8	917.5	833.9	795.2	762.2	723.0	705.9
15°	1488.0	1327.6	1129.1	966.4	926.6	836.1	747.4	711.0	680.3	641.0	618.9
17.5°	1472.6	1296.9	1073.3	896.4	858.3	765.0	675.2	641.6	614.3	576.2	559.1
20°	1447.0	1265.6	1024.4	832.7	789.5	700.2	615.4	579.6	555.7	535.2	522.7
22.5°	1411.8	1228.6	964.7	769.6	732.1	642.2	560.8	531.8	517.6	501.1	492.0
25°	1358.3	1184.3	910.7	716.7	679.2	589.9	518.8	499.4	485.2	474.4	464.7
27.5°	1300.9	1141.6	856.6	663.2	628.0	542.6	485.8	471.0	458.5	444.8	436.3
30°	1234.3	1088.1	805.4	616.0	581.9	504.5	457.3	443.7	433.4	418.6	410.1
32.5°	1155.8	1029.5	757.7	570.5	538.7	471.5	431.2	416.4	407.8	393.6	385.1
35°	1074.5	971.0	705.3	528.4	499.4	442.5	405.6	391.3	382.2	368.0	359.5
37.5°	994.8	908.4	658.7	491.4	465.3	413.5	378.8	366.9	358.3	343.6	333.3
40°	910.7	836.7	613.2	456.8	432.3	387.9	354.4	343.6	332.2	319.1	308.9
42.5°	822.5	773.6	571.1	426.0	403.3	362.9	329.9	318.5	308.9	293.5	289.0
45°	740.0	701.3	526.7	393.6	375.4	337.9	306.0	294.6	283.8	270.8	266.2
47.5°	666.6	630.8	486.3	365.2	347.0	313.4	282.1	270.2	262.2	252.0	245.2
50°	591.0	561.4	442.0	337.3	320.2	287.2	257.1	249.1	240.0	227.5	222.4
52.5°	520.5	497.7	405.6	310.6	294.6	265.1	234.3	226.4	217.9	207.0	199.7
55°	458.5	435.7	364.0	280.4	268.5	240.6	213.3	203.1	196.2	183.7	174.6
57.5°	394.8	383.9	324.2	255.4	244.0	216.1	191.7	183.7	175.2	161.5	152.4
60°	342.4	329.9	287.2	228.1	217.3	194.0	170.1	162.1	154.1	141.1	137.1
62.5°	292.9	283.8	251.4	202.5	193.4	170.6	149.6	142.2	134.2	125.7	122.9
65°	248.0	240.0	215.6	176.3	168.9	149.0	129.7	121.7	116.6	112.6	109.8
67.5°	205.9	201.4	182.6	151.9	146.2	128.6	111.5	105.2	102.4	97.8	95.6
70°	167.8	169.5	152.4	129.7	123.4	109.2	94.4	89.3	85.9	81.9	77.4
72.5°	137.1	136.5	126.3	105.8	101.2	89.9	78.5	75.1	71.1	63.1	58.0
75°	106.4	108.6	99.0	87.6	83.0	71.7	60.9	56.3	52.3	49.5	47.8
77.5°	81.3	82.5	77.9	67.1	63.1	53.5	44.9	42.7	41.0	39.2	38.7
80°	58.0	59.7	55.2	48.3	44.9	37.0	32.4	31.9	31.3	30.1	29.6
82.5°	37.5	39.8	37.5	30.1	28.4	24.5	23.3	23.3	22.8	22.2	21.6
85°	20.5	22.8	21.6	17.6	16.5	15.4	14.8	14.2	14.2	14.2	14.2
87.5°	8.0	10.8	9.1	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
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: P646689

CATALOG NUMBER: S123RDR-S560D927-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1387.3	1387.3	1387.3
2.5°	1235.4	1229.8	1227.5
5°	1065.4	1047.7	1043.8
7.5°	910.7	903.3	878.8
10°	796.9	774.1	763.9
12.5°	694.5	673.5	670.1
15°	612.6	597.8	592.7
17.5°	558.6	548.3	542.1
20°	518.8	511.4	506.8
22.5°	488.6	482.9	479.5
25°	461.9	453.3	450.5
27.5°	434.6	427.2	424.3
30°	409.0	402.7	398.7
32.5°	382.2	374.8	372.6
35°	356.6	352.1	349.8
37.5°	331.6	325.9	322.5
40°	308.3	305.4	303.7
42.5°	287.2	282.1	281.6
45°	265.1	259.9	258.8
47.5°	244.0	239.5	238.9
50°	221.8	215.6	211.0
52.5°	195.1	189.4	185.4
55°	171.2	165.0	161.5
57.5°	151.3	148.5	146.8
60°	135.9	134.2	133.1
62.5°	122.3	120.6	120.6
65°	109.8	108.1	106.4
67.5°	94.4	91.0	90.4
70°	75.7	70.5	70.0
72.5°	57.4	56.9	55.7
75°	47.8	46.6	46.6
77.5°	38.7	37.5	37.5
80°	29.6	29.0	29.6
82.5°	21.6	21.6	21.0
85°	14.2	13.7	13.7
87.5°	6.8	6.8	6.8
90°	0.0	0.0	0.0

(END OF REPORT)