

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: P646662

Luminaire Tested: S123RDR-S1000D927-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646662
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-S1000D927-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

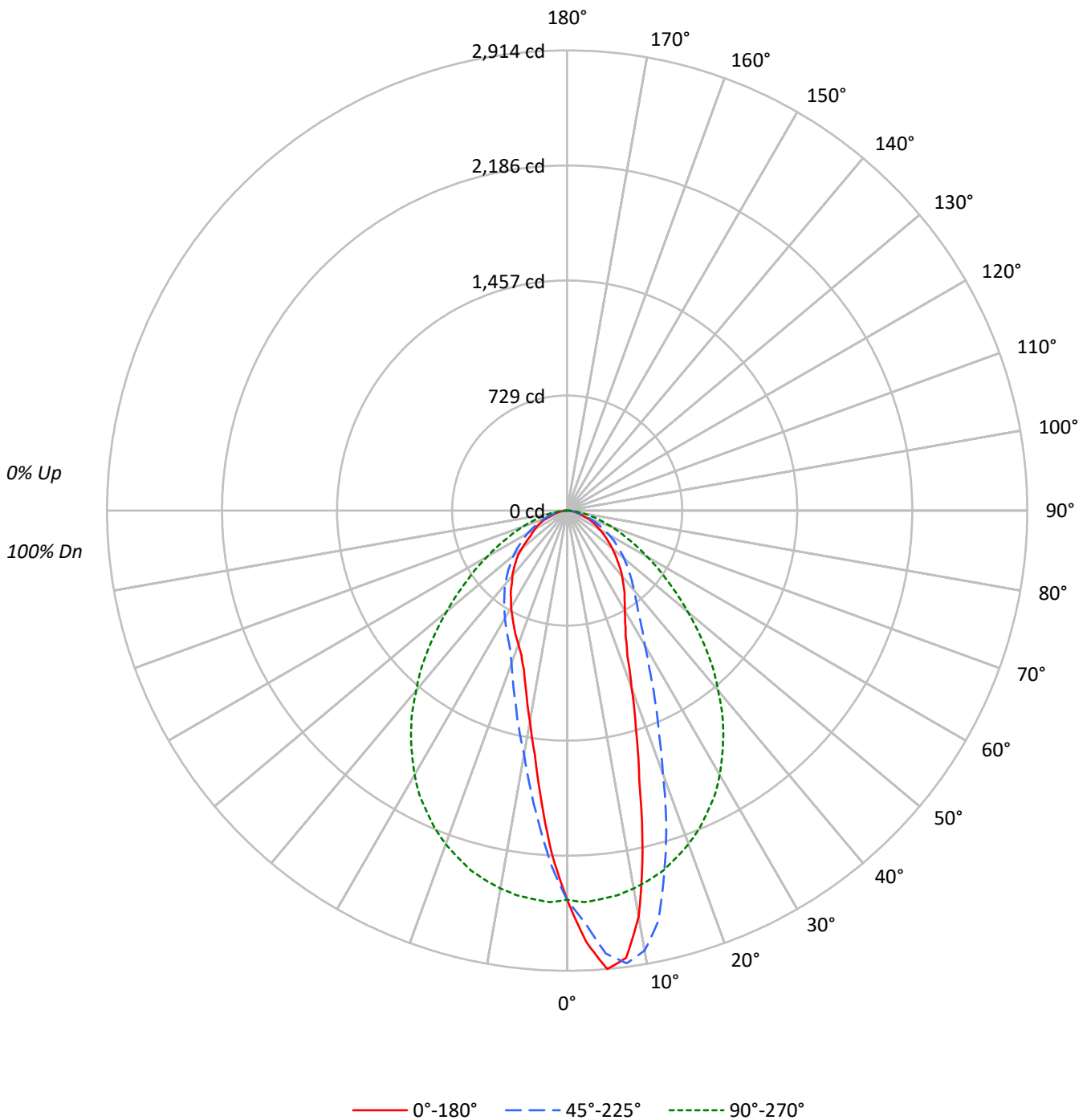
Lumens per Lamp: N/A
Luminaire Lumens: 3264.3 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

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	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°	29688	29688	29688	29688	29688
5°	35251	34054	29875	24230	22422
10°	31938	34608	29726	19183	16599
15°	21990	29640	29413	15752	13132
20°	15298	22733	28822	13199	11542
25°	11658	17447	27963	11792	10637
30°	10148	13718	26889	10964	9853
35°	9317	11545	25366	10223	9139
40°	8502	10361	23373	9598	8486
45°	7678	9485	21225	8917	7833
50°	6969	8806	18691	8295	7026
55°	6302	8086	16255	7577	6027
60°	5649	7352	14119	6938	5697
65°	5215	6538	12154	6164	5386
70°	4235	5587	10604	5587	4379
75°	3715	4516	8985	4655	3855
80°	3365	3789	7362	3927	3643
85°	3069	3207	5585	3498	3346

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°

Vertical Angle: 45°

Luminance: 22396 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.6	6.9
10°-20°	519.6	15.9
20°-30°	596.1	18.3
30°-40°	587.2	18.0
40°-50°	517.5	15.9
50°-60°	398.3	12.2
60°-70°	261.9	8.0
70°-80°	127.2	3.9
80°-90°	32.1	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°	1340.2	41.1
0°-40°	1927.4	59.0
0°-60°	2843.2	87.1
0°-90°	3264.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3264.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2464	2464	2464	2464	2464	
5°	2914	2816	2470	2003	1854	266
15°	1763	2376	2358	1263	1053	498
25°	877	1312	2103	887	800	414
35°	633	785	1724	695	621	395
45°	451	557	1246	523	460	350
55°	300	385	774	361	287	269
65°	183	229	426	216	189	179
75°	80	97	193	100	83	86
85°	22	23	40	25	24	25
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°	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9
2.5°	2730.6	2713.5	2708.4	2702.4	2692.3	2655.9	2614.5	2618.5	2613.5	2582.1	2565.0
5°	2914.5	2916.5	2911.5	2907.4	2890.3	2845.8	2815.5	2797.3	2758.9	2700.3	2682.2
7.5°	2857.9	2890.3	2896.3	2903.4	2912.5	2902.4	2891.3	2884.2	2852.9	2789.2	2759.9
10°	2610.4	2608.4	2644.8	2674.1	2752.9	2808.4	2828.6	2857.9	2884.2	2839.7	2807.4
12.5°	2206.3	2209.4	2328.6	2328.6	2430.6	2572.0	2663.0	2724.6	2837.7	2840.8	2821.6
15°	1762.8	1812.3	1918.4	1940.6	2072.0	2261.9	2376.1	2503.3	2722.6	2791.3	2787.2
17.5°	1447.7	1468.9	1570.9	1600.2	1716.4	1931.6	2089.1	2242.7	2549.8	2694.3	2720.5
20°	1193.1	1212.3	1286.0	1308.2	1425.4	1630.5	1772.9	1938.6	2340.7	2561.9	2608.4
22.5°	996.1	1033.5	1083.0	1117.3	1184.0	1393.1	1515.3	1673.9	2098.2	2413.4	2468.0
25°	876.9	894.1	936.5	952.6	1033.5	1171.9	1312.3	1451.7	1883.1	2227.6	2323.5
27.5°	796.1	801.1	832.4	846.6	895.1	1023.4	1124.4	1253.7	1663.8	2036.6	2148.8
30°	729.4	738.5	762.7	765.8	808.2	899.1	986.0	1105.2	1471.9	1851.7	1966.9
32.5°	677.9	682.9	703.1	709.2	736.5	808.2	878.9	965.8	1294.1	1658.8	1791.1
35°	633.4	634.4	649.6	657.7	681.9	741.5	784.9	857.7	1151.7	1499.2	1615.4
37.5°	582.9	590.0	601.1	608.2	629.4	677.9	717.3	773.8	1020.3	1347.6	1455.7
40°	540.5	546.5	559.7	562.7	581.9	626.3	658.7	709.2	907.2	1202.2	1312.3
42.5°	498.0	502.1	515.2	521.3	542.5	577.8	607.1	646.5	817.3	1072.9	1181.0
45°	450.6	460.7	474.8	477.8	498.0	534.4	556.6	593.0	736.5	960.7	1056.7
47.5°	411.2	416.2	428.3	433.4	456.6	488.9	512.2	543.5	666.7	858.7	952.6
50°	371.8	373.8	384.9	392.0	410.2	447.5	469.8	498.0	603.1	775.9	841.5
52.5°	334.4	339.4	350.5	355.6	367.7	406.1	426.3	455.6	542.5	691.0	756.7
55°	300.0	303.1	311.1	317.2	331.4	364.7	384.9	410.2	490.0	613.2	670.8
57.5°	267.7	271.8	277.8	282.9	296.0	325.3	345.5	370.8	440.5	542.5	586.9
60°	234.4	239.4	246.5	248.5	260.6	286.9	305.1	327.3	389.9	476.8	516.2
62.5°	210.1	211.1	217.2	220.2	227.3	248.5	267.7	288.9	344.5	413.2	445.5
65°	182.9	185.9	188.9	190.9	197.0	215.2	229.3	245.5	300.0	359.6	381.9
67.5°	154.6	157.6	162.6	164.7	169.7	181.8	194.0	210.1	255.6	306.1	326.3
70°	120.2	120.2	128.3	132.3	140.4	149.5	158.6	172.7	212.1	255.6	270.7
72.5°	98.0	99.0	100.0	100.0	107.1	122.2	127.3	136.4	167.7	209.1	222.2
75°	79.8	80.8	81.8	82.8	83.8	88.9	97.0	105.1	128.3	158.6	170.7
77.5°	63.6	64.7	65.7	65.7	67.7	69.7	71.7	75.8	91.9	114.2	124.3
80°	48.5	49.5	50.5	50.5	51.5	53.5	54.6	56.6	61.6	76.8	81.8
82.5°	35.4	35.4	35.4	36.4	37.4	37.4	39.4	39.4	42.4	46.5	49.5
85°	22.2	22.2	23.2	23.2	23.2	24.2	23.2	24.2	25.3	26.3	28.3
87.5°	10.1	9.1	10.1	10.1	10.1	11.1	11.1	11.1	11.1	12.1	12.1
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°	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9	2463.9
2.5°	2517.5	2482.1	2422.5	2385.1	2371.0	2327.6	2286.1	2251.8	2234.6	2232.6	2201.3
5°	2567.0	2470.0	2346.8	2243.7	2219.5	2143.7	2045.7	2003.3	1947.7	1925.5	1899.2
7.5°	2607.4	2455.9	2274.0	2118.4	2073.0	1958.8	1833.6	1778.0	1735.6	1668.9	1629.5
10°	2635.7	2429.6	2185.1	1984.1	1919.4	1786.1	1634.5	1567.9	1528.5	1451.7	1420.4
12.5°	2646.8	2396.3	2096.2	1844.7	1788.1	1629.5	1481.0	1412.3	1353.7	1284.0	1253.7
15°	2642.8	2357.9	2005.3	1716.4	1645.7	1485.0	1327.4	1262.8	1208.2	1138.5	1099.1
17.5°	2615.5	2303.3	1906.3	1592.1	1524.4	1358.8	1199.1	1139.5	1091.0	1023.4	993.1
20°	2570.0	2247.8	1819.4	1479.0	1402.2	1243.6	1093.1	1029.4	987.0	950.6	928.4
22.5°	2507.4	2182.1	1713.3	1366.8	1300.2	1140.5	996.1	944.6	919.3	890.0	873.8
25°	2412.4	2103.3	1617.4	1272.9	1206.2	1047.6	921.3	887.0	861.7	842.5	825.4
27.5°	2310.4	2027.5	1521.4	1177.9	1115.3	963.8	862.7	836.5	814.2	790.0	774.8
30°	2192.2	1932.6	1430.5	1094.1	1033.5	896.1	812.2	788.0	769.8	743.5	728.4
32.5°	2052.8	1828.5	1345.6	1013.3	956.7	837.5	765.8	739.5	724.3	699.1	683.9
35°	1908.3	1724.5	1252.7	938.5	887.0	786.0	720.3	695.0	678.9	653.6	638.5
37.5°	1766.9	1613.3	1169.8	872.8	826.4	734.4	672.8	651.6	636.4	610.2	592.0
40°	1617.4	1486.0	1089.0	811.2	767.8	689.0	629.4	610.2	590.0	566.7	548.6
42.5°	1460.8	1373.9	1014.3	756.7	716.3	644.5	585.9	565.7	548.6	521.3	513.2
45°	1314.3	1245.6	935.5	699.1	666.7	600.1	543.5	523.3	504.1	480.9	472.8
47.5°	1184.0	1120.3	863.7	648.6	616.2	556.6	501.1	479.9	465.7	447.5	435.4
50°	1049.6	997.1	784.9	599.1	568.8	510.2	456.6	442.5	426.3	404.1	395.0
52.5°	924.4	883.9	720.3	551.6	523.3	470.8	416.2	402.1	386.9	367.7	354.6
55°	814.2	773.8	646.5	498.0	476.8	427.3	378.8	360.7	348.5	326.3	310.1
57.5°	701.1	681.9	575.8	453.6	433.4	383.9	340.4	326.3	311.1	286.9	270.7
60°	608.2	585.9	510.2	405.1	385.9	344.5	302.1	287.9	273.8	250.5	243.5
62.5°	520.3	504.1	446.5	359.6	343.5	303.1	265.7	252.6	238.4	223.3	218.2
65°	440.5	426.3	382.9	313.2	300.0	264.7	230.3	216.2	207.1	200.0	195.0
67.5°	365.7	357.6	324.3	269.7	259.6	228.3	198.0	186.9	181.8	173.8	169.7
70°	298.0	301.0	270.7	230.3	219.2	194.0	167.7	158.6	152.5	145.5	137.4
72.5°	243.5	242.5	224.3	187.9	179.8	159.6	139.4	133.3	126.3	112.1	103.0
75°	188.9	193.0	175.8	155.6	147.5	127.3	108.1	100.0	92.9	87.9	84.9
77.5°	144.5	146.5	138.4	119.2	112.1	95.0	79.8	75.8	72.7	69.7	68.7
80°	103.0	106.1	98.0	85.9	79.8	65.7	57.6	56.6	55.6	53.5	52.5
82.5°	66.7	70.7	66.7	53.5	50.5	43.4	41.4	41.4	40.4	39.4	38.4
85°	36.4	40.4	38.4	31.3	29.3	27.3	26.3	25.3	25.3	25.3	25.3
87.5°	14.1	19.2	16.2	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1
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°	2463.9	2463.9	2463.9
2.5°	2194.2	2184.1	2180.1
5°	1892.2	1860.8	1853.8
7.5°	1617.4	1604.2	1560.8
10°	1415.3	1374.9	1356.7
12.5°	1233.5	1196.1	1190.0
15°	1088.0	1061.7	1052.7
17.5°	992.0	973.9	962.7
20°	921.3	908.2	900.1
22.5°	867.8	857.7	851.6
25°	820.3	805.2	800.1
27.5°	771.8	758.7	753.6
30°	726.4	715.2	708.2
32.5°	678.9	665.7	661.7
35°	633.4	625.3	621.3
37.5°	589.0	578.9	572.8
40°	547.5	542.5	539.5
42.5°	510.2	501.1	500.1
45°	470.8	461.7	459.7
47.5°	433.4	425.3	424.3
50°	394.0	382.9	374.8
52.5°	346.5	336.4	329.3
55°	304.1	293.0	286.9
57.5°	268.7	263.7	260.6
60°	241.4	238.4	236.4
62.5°	217.2	214.2	214.2
65°	195.0	191.9	188.9
67.5°	167.7	161.6	160.6
70°	134.4	125.3	124.3
72.5°	102.0	101.0	99.0
75°	84.9	82.8	82.8
77.5°	68.7	66.7	66.7
80°	52.5	51.5	52.5
82.5°	38.4	38.4	37.4
85°	25.3	24.2	24.2
87.5°	12.1	12.1	12.1
90°	0.0	0.0	0.0

(END OF REPORT)