

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: P735914

Luminaire Tested: S122RDR-S290D940-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735914  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/24/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDR-S290D940-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1105.9 lumens  
Efficiency: N/A  
Efficacy: 88.5 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

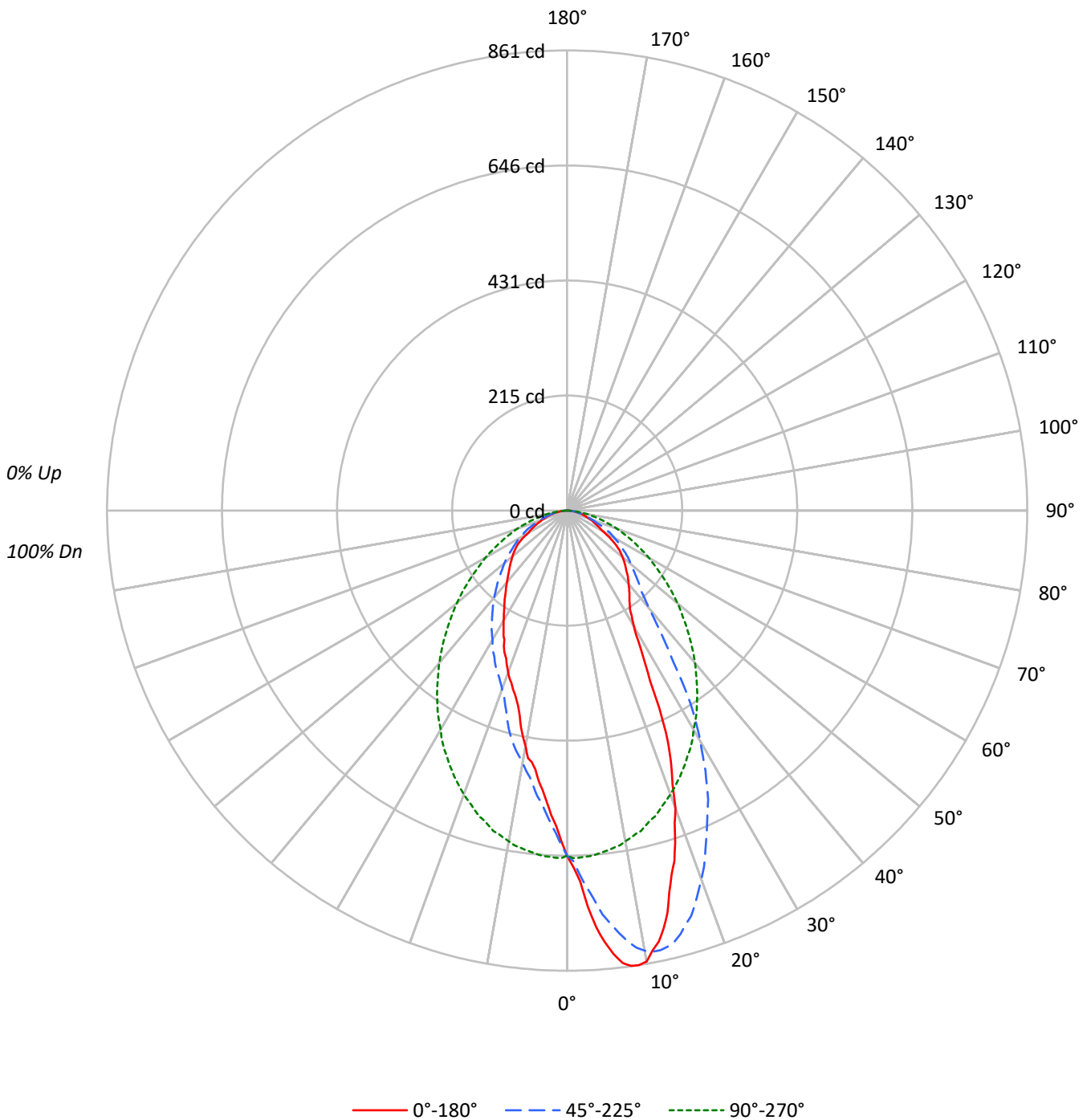
Input Watts (W): 12.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Luminous Intensity Polar Plot



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87																												
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77	75																												
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68	66																												
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58																												
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54	52																												
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46																												
7	71	58	50	45	69	57	50	45	56	49	44	55	49	44	53	48	44	42																												
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																												
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																												
10	59	46	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	12405	12405	12405	12405	12405
5°	15652	14641	12453	10581	10132
10°	16719	16325	12265	9363	8750
15°	14706	16319	11940	8396	7291
20°	12124	15020	11559	7288	6597
25°	8642	13187	11096	6751	5934
30°	5531	11060	10500	6195	5271
35°	4763	8152	9954	5747	4782
40°	4489	5959	9339	5317	4391
45°	4241	5105	8682	4928	4145
50°	4040	4653	8065	4584	3992
55°	3706	4306	7376	4216	3850
60°	2925	3925	6774	3956	3252
65°	2647	3511	6145	3670	2965
70°	2445	2838	5586	3164	2726
75°	2280	2562	4872	2822	2562
80°	2103	2325	4129	2535	2325
85°	1875	2051	3176	2227	2051

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 12154 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.6	5.7
10°-20°	168.2	15.2
20°-30°	211.0	19.1
30°-40°	201.0	18.2
40°-50°	177.3	16.0
50°-60°	139.5	12.6
60°-70°	89.0	8.0
70°-80°	45.2	4.1
80°-90°	12.0	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°	441.8	39.9
0°-40°	642.8	58.1
0°-60°	959.7	86.8
0°-90°	1105.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1105.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	645	645	645	645	645	
5°	811	759	645	548	525	79
15°	739	820	600	422	366	205
25°	408	622	523	318	280	184
35°	203	347	424	245	204	129
45°	156	188	319	181	152	121
55°	111	128	220	126	115	97
65°	58	77	135	81	65	58
75°	31	34	66	38	34	33
85°	8	9	14	10	9	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	645.4	645.4	645.4	645.4	645.4	645.4	645.4	645.4	645.4
1°	667.2	670.3	655.9	657.5	650.5	638.1	626.0	627.2	618.7
2°	694.0	702.1	682.3	670.3	650.1	628.4	604.3	601.2	590.7
3°	742.5	738.6	706.0	681.5	648.5	615.9	585.7	578.7	569.8
4°	781.7	770.0	730.0	695.9	647.8	601.6	567.4	555.4	546.5
5°	811.2	796.4	758.8	706.8	645.4	593.4	548.4	534.8	525.1
6°	834.8	823.6	777.4	716.9	642.3	581.4	537.2	518.9	508.8
7°	853.1	843.8	796.4	730.4	639.6	569.4	519.3	500.3	488.3
8°	860.1	855.8	813.9	740.1	636.5	560.8	503.4	486.3	475.4
9°	861.2	861.6	827.9	749.5	633.8	545.3	492.1	474.7	468.8
10°	856.6	860.1	836.4	759.9	628.4	537.5	479.7	463.0	448.3
11°	838.3	853.9	840.7	766.9	623.7	525.1	468.8	447.1	432.4
12°	824.8	839.5	841.1	775.8	618.3	519.3	459.5	430.4	414.9
13°	802.2	817.8	837.2	778.2	615.2	504.9	447.9	413.3	394.3
14°	775.5	800.3	831.0	783.2	607.4	492.5	436.2	389.3	378.0
15°	739.0	774.3	820.1	785.2	600.0	484.0	421.9	377.3	366.4
16°	708.7	748.7	805.3	785.2	595.4	472.3	406.4	366.8	355.9
17°	685.8	718.4	793.3	785.6	587.6	464.2	390.8	357.1	348.5
18°	653.6	690.1	774.3	784.0	579.5	454.5	377.6	348.9	338.4
19°	617.9	661.4	754.1	781.3	572.5	444.4	363.7	340.4	331.5
20°	592.7	632.6	734.3	777.0	565.1	437.8	356.3	330.7	322.5
21°	550.4	599.3	714.5	771.2	557.3	426.5	346.2	322.1	313.2
22.5°	507.3	552.3	678.0	761.5	544.5	412.6	334.9	311.7	298.5
23°	490.6	541.0	666.8	758.8	540.3	409.1	331.5	307.0	295.4
24°	454.9	507.3	643.5	750.2	530.9	397.4	324.9	297.7	289.5
25°	407.5	478.5	621.8	741.3	523.2	388.9	318.3	290.3	279.8
26°	354.0	439.3	602.0	730.4	512.3	377.3	309.3	283.3	268.6
27°	321.0	405.6	575.2	718.8	504.6	368.7	302.0	272.8	262.4
28°	294.6	352.4	551.1	707.5	495.2	358.2	296.9	265.5	253.1
29°	265.9	323.3	522.8	692.4	485.1	346.2	288.8	258.1	244.9
30°	249.2	292.3	498.3	681.1	473.1	338.1	279.1	250.7	237.5
32.5°	218.9	241.0	432.0	648.9	450.2	314.8	263.1	230.5	219.3
35°	203.0	214.6	347.4	611.3	424.2	295.4	244.9	213.9	203.8
37.5°	191.0	197.9	286.8	570.9	397.8	278.3	228.2	198.3	188.6
40°	178.9	184.4	237.5	532.1	372.2	261.6	211.9	182.4	175.0
42.5°	168.1	172.3	206.1	493.7	345.8	244.5	196.0	170.0	163.4
45°	156.0	159.9	187.8	447.1	319.4	227.0	181.3	156.4	152.5
47.5°	145.9	148.6	170.4	405.6	293.4	210.4	166.1	145.5	142.8
50°	135.1	138.6	155.6	359.4	269.7	194.1	153.3	135.8	133.5
52.5°	124.6	126.1	143.2	313.2	244.9	178.1	139.7	126.1	124.6
55°	110.6	116.8	128.5	265.9	220.1	163.4	125.8	116.0	114.9
57.5°	94.7	102.9	115.3	223.2	196.8	147.1	114.5	106.7	101.7
60°	76.1	85.8	102.1	185.5	176.2	132.3	102.9	90.8	84.6
62.5°	66.8	69.9	90.0	155.2	155.2	118.4	91.2	78.0	75.3
65°	58.2	60.5	77.2	128.5	135.1	102.9	80.7	67.5	65.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	50.8	52.8	59.0	107.1	116.4	89.7	66.8	59.0	56.3
70°	43.5	45.0	50.5	87.3	99.4	76.5	56.3	50.5	48.5
72.5°	36.9	38.4	41.5	65.6	81.5	63.7	47.4	43.1	41.5
75°	30.7	31.4	34.5	48.9	65.6	50.8	38.0	35.3	34.5
77.5°	24.8	25.2	27.2	34.9	50.8	38.8	30.7	28.3	27.9
80°	19.0	19.4	21.0	25.2	37.3	27.9	22.9	21.7	21.0
82.5°	13.6	14.0	14.7	17.1	25.2	19.0	16.3	15.9	14.7
85°	8.5	8.5	9.3	10.5	14.4	10.9	10.1	9.7	9.3
87.5°	3.9	3.9	4.3	4.3	6.6	4.7	4.7	4.3	3.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)