

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 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: S122RDRP-S290D940-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
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: S122RDRP-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

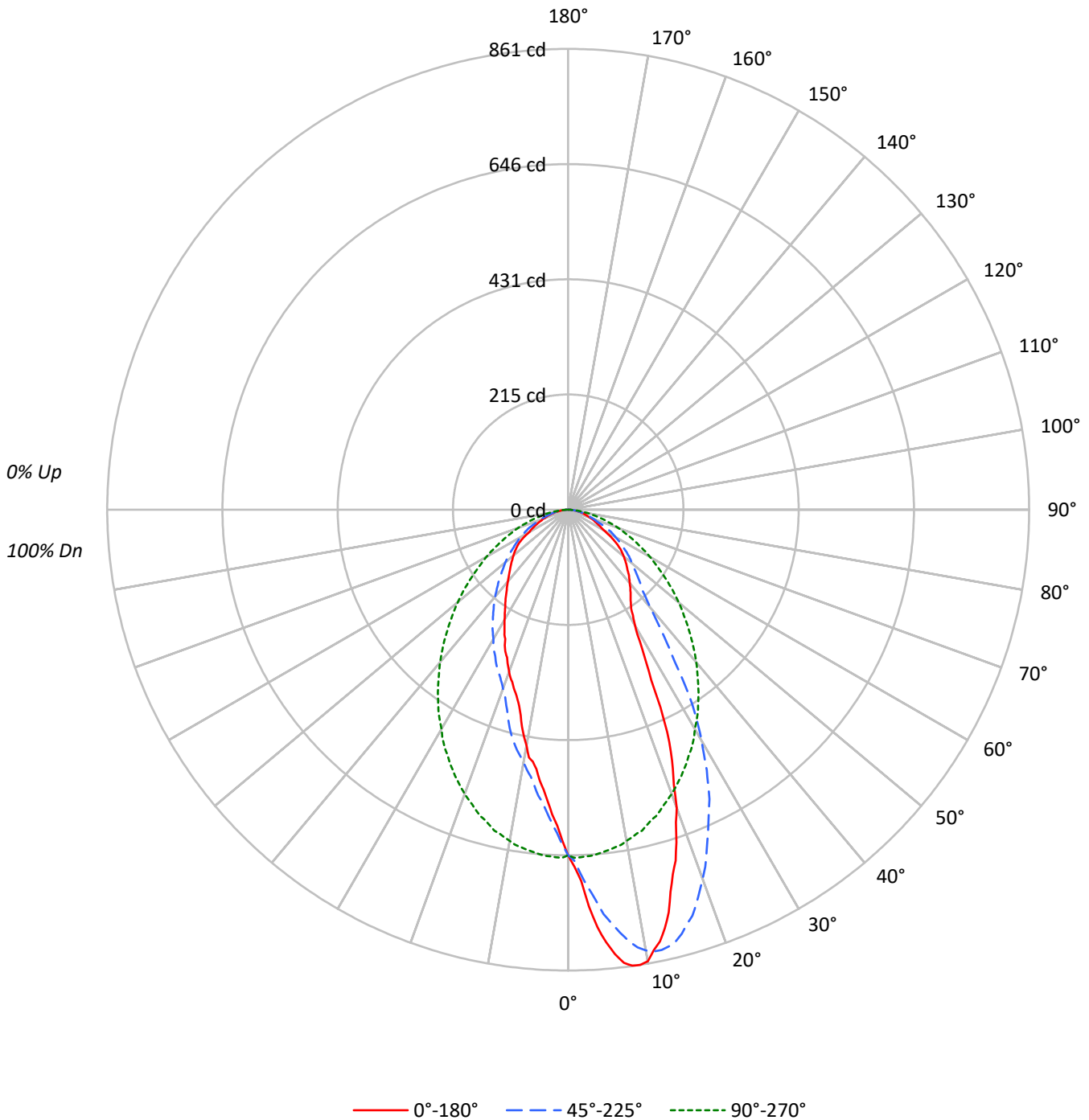
Lumens per Lamp: N/A
Luminaire Lumens: 1105.9 lumens
Efficiency: N/A
Efficacy: 88.5 lumens/watt
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P735914

CATALOG NUMBER: S122RDRP-S290D940-X4F0-XX-UDD-W-W

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	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



TEST NUMBER: P735914

CATALOG NUMBER: S122RDRP-S290D940-X4F0-XX-UDD-W-W

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



TEST NUMBER: P735914

CATALOG NUMBER: S122RDRP-S290D940-X4F0-XX-UDD-W-W

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



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	15.19	16.65	15.55	16.97	17.28	17.88	19.35	18.25	19.66	19.98
	3H	16.30	17.62	16.68	17.94	18.31	19.32	20.64	19.70	20.96	21.33
	4H	16.74	17.98	17.15	18.33	18.70	19.82	21.05	20.22	21.40	21.78
	6H	17.09	18.22	17.50	18.59	18.98	20.15	21.29	20.56	21.65	22.05
	8H	17.20	18.28	17.63	18.67	19.07	20.24	21.32	20.67	21.71	22.11
	12H	17.28	18.31	17.71	18.69	19.12	20.29	21.32	20.72	21.70	22.13
4H	2H	16.36	17.59	16.76	17.94	18.32	18.33	19.56	18.73	19.91	20.29
	3H	17.58	18.60	17.99	19.00	19.40	19.99	21.01	20.40	21.41	21.81
	4H	18.06	18.98	18.49	19.39	19.83	20.63	21.55	21.06	21.96	22.40
	6H	18.46	19.26	18.92	19.70	20.16	21.08	21.88	21.54	22.32	22.78
	8H	18.60	19.34	19.06	19.79	20.25	21.21	21.96	21.68	22.40	22.87
	12H	18.70	19.36	19.18	19.84	20.31	21.29	21.95	21.77	22.43	22.91
8H	4H	18.46	19.21	18.93	19.65	20.12	20.74	21.49	21.21	21.93	22.40
	6H	18.95	19.57	19.45	20.06	20.54	21.30	21.92	21.80	22.41	22.89
	8H	19.14	19.69	19.66	20.20	20.69	21.50	22.05	22.02	22.56	23.05
	12H	19.30	19.79	19.81	20.28	20.84	21.65	22.14	22.16	22.63	23.19
12H	4H	18.51	19.17	18.99	19.65	20.12	20.73	21.39	21.21	21.87	22.34
	6H	19.02	19.57	19.54	20.08	20.57	21.30	21.85	21.82	22.36	22.85
	8H	19.26	19.75	19.78	20.24	20.81	21.55	22.03	22.06	22.52	23.09