

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: P735911

Luminaire Tested: S122RDRP-S290D927-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2024  
Report Number: P735911  
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-S290D927-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

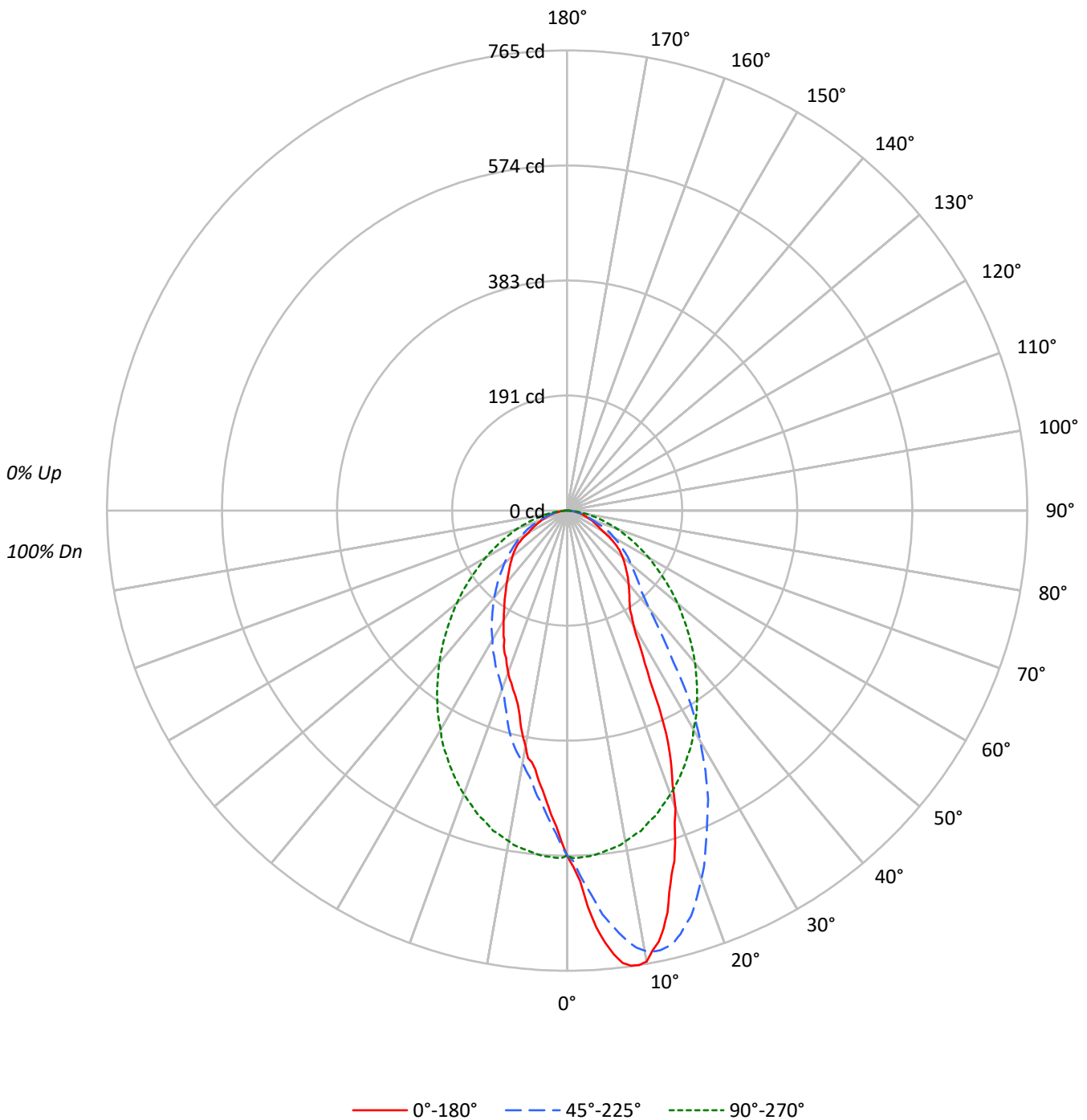
Lumens per Lamp: N/A  
Luminaire Lumens: 982.5 lumens  
Efficiency: N/A  
Efficacy: 78.6 lumens/watt  
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

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

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

	0°	45°	90°	135°	180°
0°	11021	11021	11021	11021	11021
5°	13904	13007	11064	9400	9001
10°	14853	14502	10895	8318	7772
15°	13064	14499	10608	7458	6477
20°	10769	13345	10268	6474	5860
25°	7677	11715	9858	5996	5272
30°	4914	9826	9328	5502	4683
35°	4231	7241	8844	5106	4247
40°	3990	5294	8298	4725	3902
45°	3768	4537	7715	4376	3683
50°	3588	4136	7165	4073	3546
55°	3294	3824	6551	3743	3422
60°	2599	3487	6016	3514	2891
65°	2351	3120	5458	3261	2633
70°	2169	2518	4962	2810	2422
75°	2020	2280	4330	2510	2280
80°	1871	2059	3664	2247	2059
85°	1676	1830	2823	1985	1830

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 10797 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	55.6	5.7
10°-20°	149.4	15.2
20°-30°	187.4	19.1
30°-40°	178.6	18.2
40°-50°	157.6	16.0
50°-60°	123.9	12.6
60°-70°	79.1	8.0
70°-80°	40.2	4.1
80°-90°	10.7	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°	392.5	39.9
0°-40°	571.1	58.1
0°-60°	852.6	86.8
0°-90°	982.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	982.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	573	573	573	573	573	
5°	721	674	573	487	466	70
15°	656	729	533	375	326	182
25°	362	552	465	283	249	163
35°	180	309	377	218	181	115
45°	139	167	284	161	136	107
55°	98	114	196	112	102	86
65°	52	69	120	72	58	52
75°	27	31	58	34	31	29
85°	8	8	13	9	8	9
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°	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4	573.4
1°	592.7	595.5	582.7	584.1	577.9	566.8	556.2	557.2	549.6
2°	616.5	623.7	606.2	595.5	577.5	558.2	536.8	534.1	524.8
3°	659.6	656.1	627.2	605.5	576.2	547.2	520.3	514.1	506.2
4°	694.4	684.1	648.6	618.2	575.5	534.4	504.1	493.4	485.5
5°	720.6	707.5	674.1	627.9	573.4	527.2	487.2	475.1	466.5
6°	741.7	731.7	690.6	636.8	570.6	516.5	477.2	461.0	452.0
7°	757.9	749.6	707.5	648.9	568.2	505.8	461.3	444.4	433.8
8°	764.1	760.3	723.0	657.5	565.5	498.2	447.2	432.0	422.4
9°	765.1	765.5	735.5	665.8	563.1	484.4	437.2	421.7	416.5
10°	761.0	764.1	743.0	675.1	558.2	477.5	426.2	411.3	398.2
11°	744.8	758.6	746.8	681.3	554.1	466.5	416.5	397.2	384.1
12°	732.7	745.8	747.2	689.3	549.3	461.3	408.2	382.4	368.6
13°	712.7	726.5	743.7	691.3	546.5	448.6	397.9	367.2	350.3
14°	688.9	711.0	738.2	695.8	539.6	437.5	387.6	345.8	335.8
15°	656.5	687.9	728.6	697.5	533.1	430.0	374.8	335.1	325.5
16°	629.6	665.1	715.5	697.5	528.9	419.6	361.0	325.8	316.2
17°	609.3	638.2	704.8	697.9	522.0	412.4	347.2	317.2	309.6
18°	580.6	613.0	687.9	696.5	514.8	403.8	335.5	310.0	300.7
19°	548.9	587.5	669.9	694.1	508.6	394.8	323.1	302.4	294.5
20°	526.5	562.0	652.4	690.3	502.0	388.9	316.5	293.8	286.5
21°	488.9	532.4	634.8	685.1	495.1	378.9	307.6	286.2	278.3
22.5°	450.7	490.6	602.4	676.5	483.8	366.5	297.6	276.9	265.1
23°	435.8	480.6	592.4	674.1	480.0	363.4	294.5	272.7	262.4
24°	404.1	450.7	571.7	666.5	471.7	353.1	288.6	264.5	257.2
25°	362.0	425.1	552.4	658.6	464.8	345.5	282.7	257.9	248.6
26°	314.5	390.3	534.8	648.9	455.1	335.1	274.8	251.7	238.6
27°	285.1	360.3	511.0	638.6	448.2	327.6	268.3	242.4	233.1
28°	261.7	313.1	489.6	628.6	440.0	318.2	263.8	235.8	224.8
29°	236.2	287.2	464.4	615.1	431.0	307.6	256.5	229.3	217.6
30°	221.4	259.6	442.7	605.1	420.3	300.3	247.9	222.7	211.0
32.5°	194.5	214.1	383.8	576.5	400.0	279.6	233.8	204.8	194.8
35°	180.3	190.7	308.6	543.1	376.9	262.4	217.6	190.0	181.0
37.5°	169.6	175.8	254.8	507.2	353.4	247.2	202.7	176.2	167.6
40°	159.0	163.8	211.0	472.7	330.7	232.4	188.3	162.1	155.5
42.5°	149.3	153.1	183.1	438.6	307.2	217.2	174.1	151.0	145.2
45°	138.6	142.1	166.9	397.2	283.8	201.7	161.0	139.0	135.5
47.5°	129.6	132.1	151.4	360.3	260.7	186.9	147.6	129.3	126.9
50°	120.0	123.1	138.3	319.3	239.6	172.4	136.2	120.7	118.6
52.5°	110.7	112.1	127.2	278.3	217.6	158.3	124.1	112.1	110.7
55°	98.3	103.8	114.1	236.2	195.5	145.2	111.7	103.1	102.1
57.5°	84.1	91.4	102.4	198.3	174.8	130.7	101.7	94.8	90.3
60°	67.6	76.2	90.7	164.8	156.5	117.6	91.4	80.7	75.2
62.5°	59.3	62.1	80.0	137.9	137.9	105.2	81.0	69.3	66.9
65°	51.7	53.8	68.6	114.1	120.0	91.4	71.7	60.0	57.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	45.2	46.9	52.4	95.2	103.4	79.6	59.3	52.4	50.0
70°	38.6	40.0	44.8	77.6	88.3	67.9	50.0	44.8	43.1
72.5°	32.8	34.1	36.9	58.3	72.4	56.5	42.1	38.3	36.9
75°	27.2	27.9	30.7	43.4	58.3	45.2	33.8	31.4	30.7
77.5°	22.1	22.4	24.1	31.0	45.2	34.5	27.2	25.2	24.8
80°	16.9	17.2	18.6	22.4	33.1	24.8	20.3	19.3	18.6
82.5°	12.1	12.4	13.1	15.2	22.4	16.9	14.5	14.1	13.1
85°	7.6	7.6	8.3	9.3	12.8	9.7	9.0	8.6	8.3
87.5°	3.4	3.4	3.8	3.8	5.9	4.1	4.1	3.8	3.4
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	14.77	16.24	15.14	16.56	16.87	17.47	18.94	17.83	19.25	19.56
	3H	15.89	17.20	16.27	17.53	17.89	18.91	20.22	19.29	20.55	20.91
	4H	16.33	17.56	16.73	17.91	18.29	19.41	20.64	19.81	20.99	21.37
	6H	16.67	17.81	17.09	18.18	18.57	19.74	20.87	20.15	21.24	21.63
	8H	16.79	17.87	17.22	18.26	18.66	19.83	20.91	20.25	21.30	21.70
	12H	16.86	17.90	17.30	18.28	18.71	19.87	20.91	20.31	21.29	21.72
4H	2H	15.94	17.17	16.34	17.52	17.90	17.92	19.15	18.32	19.50	19.88
	3H	17.17	18.19	17.58	18.59	18.99	19.58	20.60	19.99	21.00	21.40
	4H	17.65	18.57	18.08	18.98	19.42	20.22	21.13	20.65	21.55	21.99
	6H	18.05	18.85	18.51	19.29	19.75	20.67	21.47	21.13	21.91	22.37
	8H	18.18	18.93	18.65	19.37	19.84	20.80	21.54	21.26	21.99	22.46
	12H	18.28	18.95	18.77	19.43	19.90	20.88	21.54	21.36	22.02	22.49
8H	4H	18.05	18.79	18.51	19.24	19.71	20.33	21.07	20.79	21.52	21.99
	6H	18.54	19.15	19.04	19.65	20.12	20.89	21.50	21.39	22.00	22.47
	8H	18.73	19.28	19.25	19.79	20.28	21.09	21.64	21.61	22.15	22.64
	12H	18.89	19.37	19.40	19.87	20.43	21.24	21.72	21.75	22.22	22.78
12H	4H	18.10	18.76	18.58	19.24	19.71	20.32	20.98	20.80	21.46	21.93
	6H	18.61	19.16	19.13	19.67	20.16	20.89	21.44	21.40	21.95	22.44
	8H	18.85	19.34	19.36	19.83	20.40	21.13	21.62	21.65	22.11	22.68