

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: P735909

Luminaire Tested: S122RDR-S290D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735909  
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-S290D840-X4F0-XX-UDD-W-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1252.5 lumens  
Efficiency: N/A  
Efficacy: 100.2 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

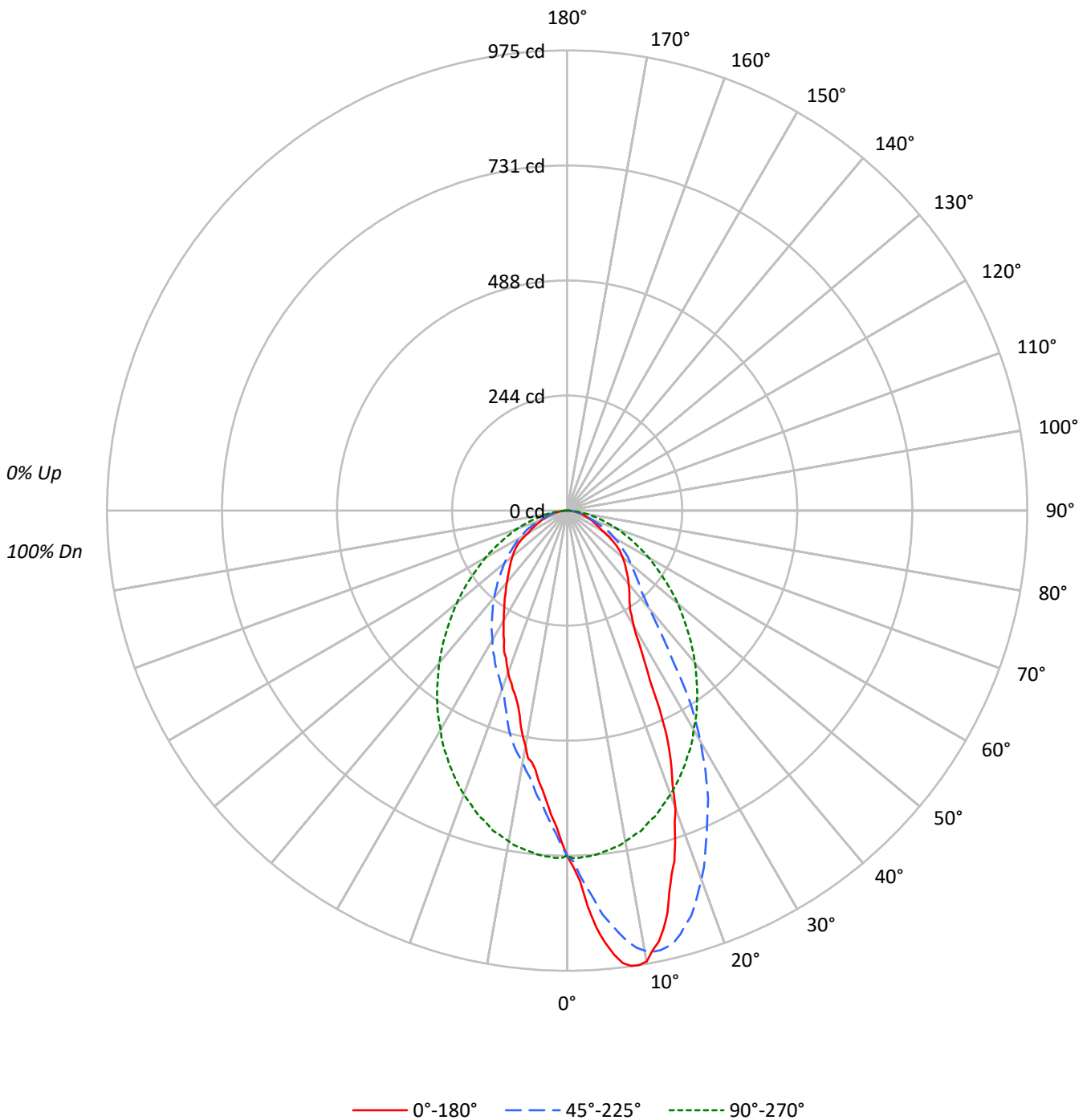
Input Watts (W): 12.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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°	14051	14051	14051	14051	14051
5°	17724	16580	14104	11984	11475
10°	18934	18487	13889	10604	9909
15°	16654	18482	13522	9508	8256
20°	13729	17010	13091	8254	7472
25°	9788	14935	12566	7643	6721
30°	6263	12527	11892	7014	5970
35°	5395	9231	11273	6509	5416
40°	5084	6750	10576	6022	4973
45°	4803	5782	9832	5581	4695
50°	4575	5272	9135	5191	4521
55°	4199	4876	8351	4772	4360
60°	3314	4444	7673	4479	3683
65°	2997	3980	6959	4157	3357
70°	2765	3209	6322	3580	3085
75°	2577	2904	5518	3201	2904
80°	2380	2623	4671	2867	2623
85°	2139	2316	3595	2514	2316

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 13765 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.9	5.7
10°-20°	190.5	15.2
20°-30°	238.9	19.1
30°-40°	227.7	18.2
40°-50°	200.8	16.0
50°-60°	158.0	12.6
60°-70°	100.8	8.0
70°-80°	51.2	4.1
80°-90°	13.6	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°	500.3	39.9
0°-40°	728.0	58.1
0°-60°	1086.8	86.8
0°-90°	1252.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1252.5	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	731	731	731	731	731	
5°	919	859	731	621	595	89
15°	837	929	680	478	415	232
25°	462	704	592	360	317	208
35°	230	393	480	277	231	146
45°	177	213	362	205	173	137
55°	125	146	249	142	130	110
65°	66	88	153	91	74	66
75°	35	39	74	43	39	37
85°	10	10	16	11	10	11
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°	731.0	731.0	731.0	731.0	731.0	731.0	731.0	731.0	731.0
1°	755.6	759.1	742.8	744.6	736.7	722.6	709.0	710.3	700.6
2°	785.9	795.1	772.7	759.1	736.2	711.6	684.4	680.9	669.0
3°	840.8	836.5	799.5	771.8	734.5	697.6	663.3	655.4	645.3
4°	885.2	872.1	826.8	788.1	733.6	681.3	642.6	629.0	618.9
5°	918.6	901.9	859.3	800.4	731.0	672.1	621.1	605.7	594.7
6°	945.5	932.7	880.4	811.8	727.4	658.4	608.3	587.7	576.2
7°	966.1	955.6	901.9	827.2	724.4	644.8	588.1	566.6	552.9
8°	974.0	969.2	921.7	838.2	720.9	635.1	570.1	550.7	538.4
9°	975.3	975.8	937.5	848.8	717.8	617.6	557.3	537.6	531.0
10°	970.1	974.0	947.2	860.6	711.6	608.8	543.3	524.4	507.7
11°	949.4	967.0	952.1	868.5	706.3	594.7	531.0	506.4	489.7
12°	934.0	950.7	952.5	878.7	700.2	588.1	520.4	487.5	469.9
13°	908.5	926.1	948.1	881.3	696.7	571.8	507.2	468.1	446.6
14°	878.2	906.3	941.1	887.0	687.9	557.8	494.0	440.9	428.1
15°	836.9	876.9	928.8	889.2	679.5	548.1	477.8	427.2	414.9
16°	802.6	847.9	912.1	889.2	674.3	534.9	460.2	415.4	403.1
17°	776.7	813.6	898.4	889.6	665.5	525.7	442.6	404.4	394.7
18°	740.2	781.5	876.9	887.9	656.2	514.7	427.7	395.2	383.3
19°	699.8	749.0	854.0	884.8	648.3	503.3	411.9	385.5	375.4
20°	671.2	716.5	831.6	880.0	640.0	495.8	403.5	374.5	365.3
21°	623.3	678.7	809.2	873.4	631.2	483.1	392.1	364.8	354.7
22.5°	574.5	625.5	767.9	862.4	616.7	467.2	379.3	353.0	338.0
23°	555.6	612.7	755.1	859.3	611.8	463.3	375.4	347.7	334.5
24°	515.1	574.5	728.8	849.6	601.3	450.1	367.9	337.1	327.9
25°	461.5	542.0	704.2	839.5	592.5	440.4	360.4	328.8	316.9
26°	400.9	497.6	681.7	827.2	580.2	427.2	350.3	320.9	304.2
27°	363.5	459.3	651.4	814.0	571.4	417.6	342.0	309.0	297.1
28°	333.6	399.1	624.2	801.3	560.9	405.7	336.3	300.6	286.6
29°	301.1	366.1	592.1	784.1	549.4	392.1	327.0	292.3	277.4
30°	282.2	331.0	564.4	771.4	535.8	382.8	316.0	283.9	269.0
32.5°	247.9	273.0	489.2	734.9	509.9	356.5	298.0	261.1	248.3
35°	229.9	243.1	393.4	692.3	480.4	334.5	277.4	242.2	230.8
37.5°	216.3	224.2	324.8	646.6	450.5	315.2	258.5	224.6	213.6
40°	202.6	208.8	269.0	602.6	421.5	296.3	240.0	206.6	198.2
42.5°	190.3	195.2	233.4	559.1	391.6	276.9	222.0	192.5	185.0
45°	176.7	181.1	212.7	506.4	361.7	257.1	205.3	177.1	172.7
47.5°	165.3	168.3	193.0	459.3	332.3	238.2	188.1	164.8	161.8
50°	153.0	156.9	176.3	407.0	305.5	219.8	173.6	153.8	151.2
52.5°	141.1	142.9	162.2	354.7	277.4	201.8	158.2	142.9	141.1
55°	125.3	132.3	145.5	301.1	249.2	185.0	142.4	131.4	130.1
57.5°	107.2	116.5	130.5	252.7	222.8	166.6	129.7	120.9	115.2
60°	86.2	97.1	115.6	210.1	199.6	149.9	116.5	102.9	95.8
62.5°	75.6	79.1	102.0	175.8	175.8	134.1	103.3	88.3	85.3
65°	65.9	68.6	87.5	145.5	153.0	116.5	91.4	76.5	73.8



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	57.6	59.8	66.8	121.3	131.9	101.5	75.6	66.8	63.7
70°	49.2	51.0	57.1	98.9	112.5	86.6	63.7	57.1	54.9
72.5°	41.8	43.5	47.0	74.3	92.3	72.1	53.6	48.8	47.0
75°	34.7	35.6	39.1	55.4	74.3	57.6	43.1	40.0	39.1
77.5°	28.1	28.6	30.8	39.6	57.6	44.0	34.7	32.1	31.6
80°	21.5	22.0	23.7	28.6	42.2	31.6	25.9	24.6	23.7
82.5°	15.4	15.8	16.7	19.3	28.6	21.5	18.5	18.0	16.7
85°	9.7	9.7	10.5	11.9	16.3	12.3	11.4	11.0	10.5
87.5°	4.4	4.4	4.8	4.8	7.5	5.3	5.3	4.8	4.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)