

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: P735909

Luminaire Tested: S122RDRP-S290D840-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
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: S122RDRP-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

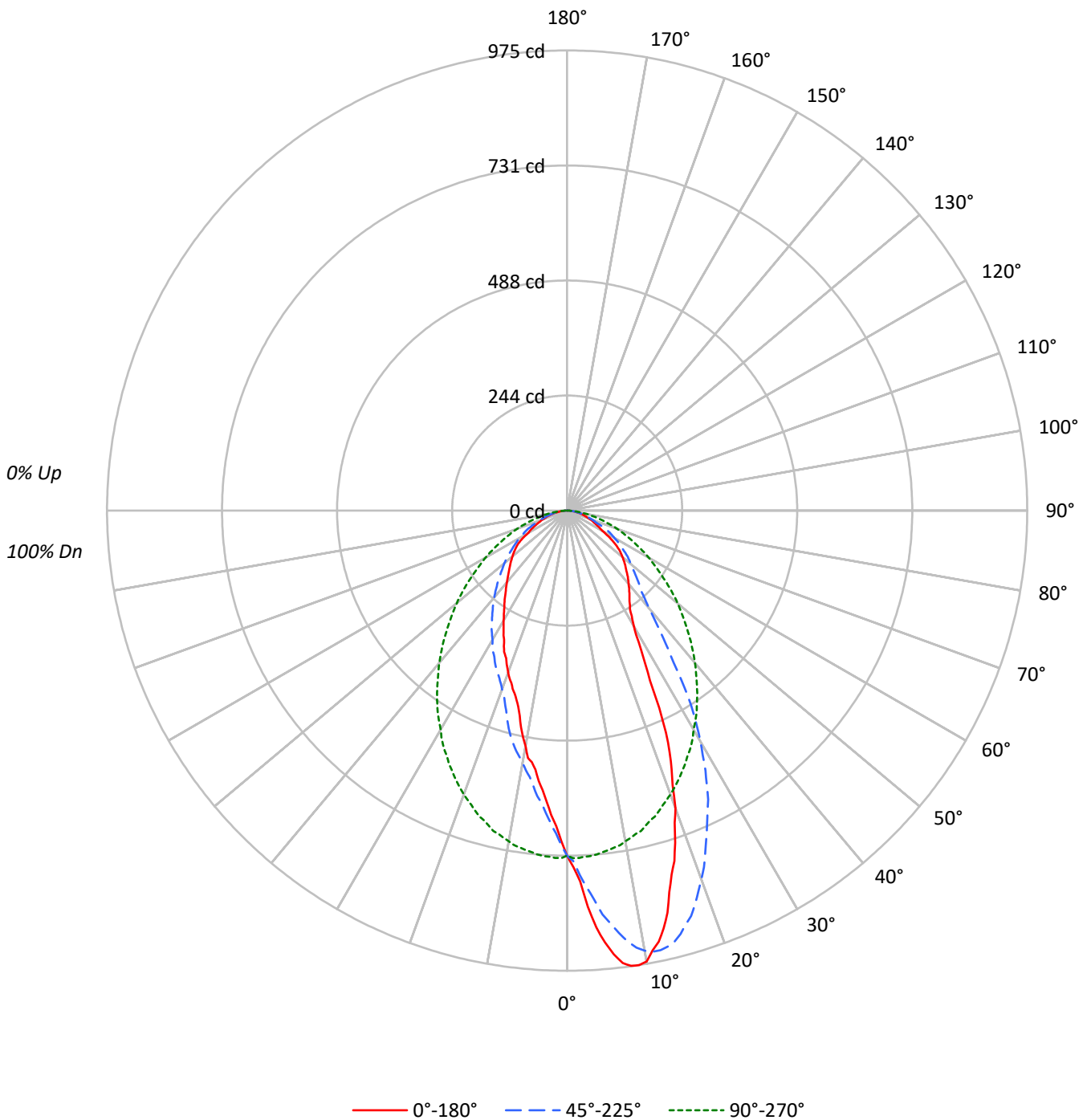
Lumens per Lamp: N/A
Luminaire Lumens: 1252.5 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 0.82 / 1.11 / 1
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P735909

CATALOG NUMBER: S122RDRP-S290D840-X4F0-XX-UDD-W-W

Luminous Intensity Polar Plot



TEST NUMBER: P735909

CATALOG NUMBER: S122RDRP-S290D840-X4F0-XX-UDD-W-W

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

TEST NUMBER: P735909

CATALOG NUMBER: S122RDRP-S290D840-X4F0-XX-UDD-W-W

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	



TEST NUMBER: P735909

CATALOG NUMBER: S122RDRP-S290D840-X4F0-XX-UDD-W-W

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



TEST NUMBER: P735909

CATALOG NUMBER: S122RDRP-S290D840-X4F0-XX-UDD-W-W

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



TEST NUMBER: P735909
 CATALOG NUMBER: S122RDRP-S290D840-X4F0-XX-UDD-W-W

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	15.62	17.08	15.98	17.40	17.71	18.31	19.78	18.68	20.09	20.41
	3H	16.73	18.05	17.11	18.37	18.74	19.75	21.07	20.13	21.39	21.76
	4H	17.18	18.41	17.58	18.76	19.14	20.25	21.49	20.65	21.83	22.21
	6H	17.52	18.65	17.93	19.02	19.41	20.58	21.72	20.99	22.08	22.48
	8H	17.63	18.71	18.06	19.10	19.51	20.67	21.75	21.10	22.14	22.54
	12H	17.71	18.74	18.14	19.12	19.55	20.72	21.75	21.15	22.13	22.56
4H	2H	16.79	18.02	17.19	18.37	18.75	18.76	20.00	19.16	20.34	20.72
	3H	18.01	19.03	18.42	19.43	19.83	20.42	21.44	20.83	21.84	22.24
	4H	18.49	19.41	18.93	19.83	20.27	21.06	21.98	21.49	22.39	22.83
	6H	18.89	19.69	19.35	20.13	20.59	21.52	22.31	21.97	22.76	23.22
	8H	19.03	19.77	19.49	20.22	20.69	21.64	22.39	22.11	22.83	23.30
	12H	19.13	19.79	19.61	20.27	20.74	21.72	22.39	22.21	22.87	23.34
8H	4H	18.89	19.64	19.36	20.08	20.55	21.17	21.92	21.64	22.36	22.83
	6H	19.39	20.00	19.88	20.49	20.97	21.74	22.35	22.23	22.84	23.32
	8H	19.57	20.12	20.09	20.64	21.12	21.93	22.48	22.45	23.00	23.48
	12H	19.73	20.22	20.24	20.71	21.28	22.08	22.57	22.59	23.06	23.63
12H	4H	18.94	19.60	19.42	20.08	20.56	21.16	21.83	21.65	22.30	22.78
	6H	19.45	20.01	19.97	20.52	21.01	21.73	22.28	22.25	22.79	23.28
	8H	19.70	20.18	20.21	20.67	21.24	21.98	22.46	22.49	22.96	23.52