

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: P242269

Luminaire Tested: S122DRP-S290D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242269  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S290D930-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

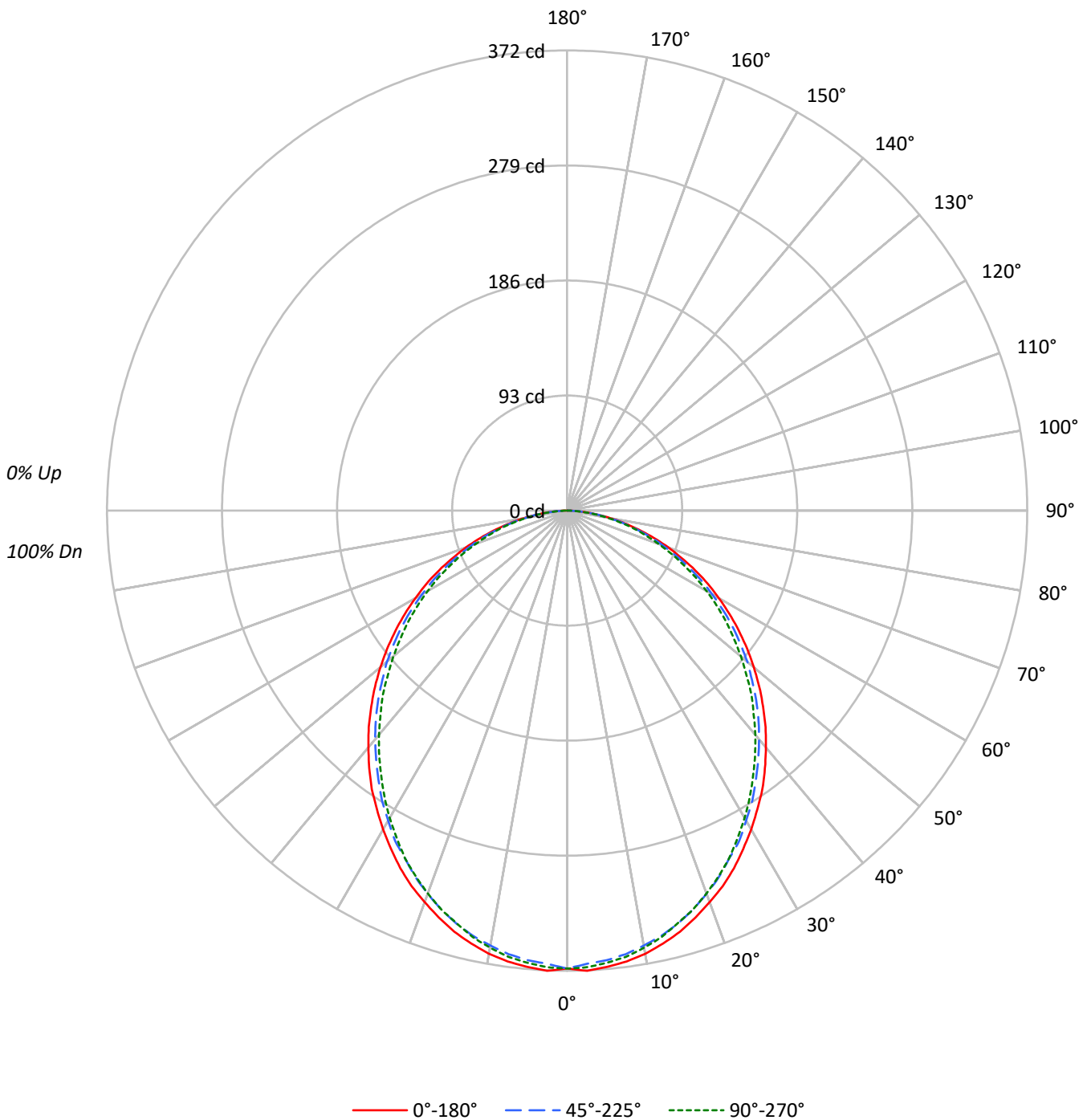
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 941.9 lumens  
Efficiency: N/A  
Efficacy: 81.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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: P242269

CATALOG NUMBER: S122DRP-S290D930-X4F0-XX-UDD-F-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242269

CATALOG NUMBER: S122DRP-S290D930-X4F0-XX-UDD-F-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26

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

	0°	45°	90°
0°	7051	7051	7051
5°	7078	6977	7017
10°	7036	6905	6940
15°	6949	6817	6809
20°	6827	6681	6675
25°	6704	6517	6517
30°	6546	6365	6310
35°	6399	6183	6092
40°	6214	6002	5886
45°	6031	5821	5676
50°	5835	5633	5432
55°	5626	5413	5214
60°	5398	5154	4964
65°	5152	4895	4669
70°	4840	4578	4361
75°	4401	4217	4114
80°	3905	3784	3598
85°	3191	3038	2732

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6031 cd/sqm



TEST NUMBER: P242269

CATALOG NUMBER: S122DRP-S290D930-X4F0-XX-UDD-F-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	34.8	3.7
10°-20°	98.0	10.4
20°-30°	144.1	15.3
30°-40°	167.3	17.8
40°-50°	167.1	17.7
50°-60°	145.7	15.5
60°-70°	107.7	11.4
70°-80°	60.9	6.5
80°-90°	16.1	1.7
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°	277.0	29.4
0°-40°	444.3	47.2
0°-60°	757.1	80.4
0°-90°	941.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	941.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	370	370	370	370	370	
5°	370	369	365	368	367	35
15°	352	350	346	347	345	99
25°	319	316	310	311	310	147
35°	275	272	266	264	262	172
45°	224	221	216	212	211	173
55°	169	167	163	159	157	152
65°	114	112	109	105	104	113
75°	60	59	57	55	56	64
85°	15	14	14	13	12	17
90°	0	0	0	0	0	



TEST NUMBER: P242269

CATALOG NUMBER: S122DRP-S290D930-X4F0-XX-UDD-F-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	370.2	370.2	370.2	370.2	370.2
2.5°	372.4	370.6	366.7	370.2	369.5
5°	370.2	368.8	364.9	367.7	367.0
7.5°	367.7	365.6	361.7	364.5	363.8
10°	363.8	361.3	357.0	359.9	358.8
12.5°	358.5	356.3	352.1	353.8	353.1
15°	352.4	350.3	345.7	347.1	345.3
17.5°	344.9	342.8	338.2	340.0	338.2
20°	336.8	334.6	329.6	330.7	329.3
22.5°	328.6	325.4	320.7	320.7	320.0
25°	319.0	316.1	310.1	310.8	310.1
27.5°	308.3	305.8	301.2	300.1	298.3
30°	297.6	294.8	289.4	288.3	286.9
32.5°	286.2	284.1	278.4	276.2	274.8
35°	275.2	271.6	265.9	263.8	262.0
37.5°	262.7	259.5	253.8	251.3	249.5
40°	249.9	247.0	241.4	238.2	236.7
42.5°	237.4	234.6	228.9	225.3	223.2
45°	223.9	221.4	216.1	212.2	210.7
47.5°	210.7	208.2	202.6	198.6	196.5
50°	196.9	195.1	190.1	185.1	183.3
52.5°	183.3	180.8	176.2	172.3	169.8
55°	169.4	167.3	163.0	158.8	157.0
57.5°	155.6	153.8	149.2	144.9	143.5
60°	141.7	140.3	135.3	131.4	130.3
62.5°	128.2	125.7	122.1	118.5	117.1
65°	114.3	112.1	108.6	105.4	103.6
67.5°	100.0	98.3	95.0	92.6	91.1
70°	86.9	85.4	82.2	79.7	78.3
72.5°	73.3	71.9	70.1	67.6	66.6
75°	59.8	59.1	57.3	55.2	55.9
77.5°	47.7	46.3	45.6	44.5	43.4
80°	35.6	35.2	34.5	33.5	32.8
82.5°	24.2	24.2	23.9	22.4	22.4
85°	14.6	14.2	13.9	12.8	12.5
87.5°	6.4	5.7	5.0	3.9	3.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P242269

CATALOG NUMBER: S122DRP-S290D930-X4F0-XX-UDD-F-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	18.07	19.68	18.43	19.99	20.31	17.63	19.24	17.99	19.55	19.86
	3H	19.82	21.27	20.20	21.60	21.96	19.33	20.78	19.71	21.11	21.47
	4H	20.47	21.83	20.86	22.18	22.56	19.97	21.34	20.37	21.69	22.06
	6H	20.93	22.20	21.35	22.57	22.96	20.43	21.70	20.84	22.07	22.46
	8H	21.08	22.29	21.50	22.68	23.08	20.57	21.79	21.00	22.17	22.57
	12H	21.17	22.33	21.60	22.71	23.14	20.66	21.82	21.09	22.20	22.63
4H	2H	18.63	20.00	19.03	20.35	20.72	18.28	19.65	18.68	19.99	20.37
	3H	20.60	21.75	21.01	22.15	22.55	20.20	21.34	20.61	21.74	22.14
	4H	21.38	22.42	21.81	22.83	23.27	20.96	21.99	21.39	22.41	22.84
	6H	21.98	22.88	22.43	23.32	23.78	21.55	22.45	22.00	22.89	23.35
	8H	22.17	23.01	22.63	23.46	23.92	21.73	22.58	22.19	23.02	23.48
	12H	22.30	23.06	22.78	23.53	24.00	21.85	22.61	22.33	23.08	23.55
8H	4H	21.65	22.50	22.12	22.94	23.41	21.28	22.13	21.74	22.57	23.03
	6H	22.37	23.07	22.86	23.56	24.04	21.99	22.69	22.48	23.18	23.65
	8H	22.63	23.26	23.14	23.76	24.25	22.24	22.87	22.75	23.37	23.86
	12H	22.83	23.38	23.33	23.88	24.44	22.41	22.97	22.92	23.46	24.02
12H	4H	21.68	22.44	22.16	22.92	23.39	21.32	22.08	21.80	22.55	23.02
	6H	22.41	23.05	22.92	23.55	24.04	22.05	22.68	22.56	23.18	23.67
	8H	22.73	23.29	23.23	23.78	24.34	22.35	22.91	22.86	23.40	23.96