

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: P242372

Luminaire Tested: S122RDRP-S290D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242372  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-24)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-S290D930-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

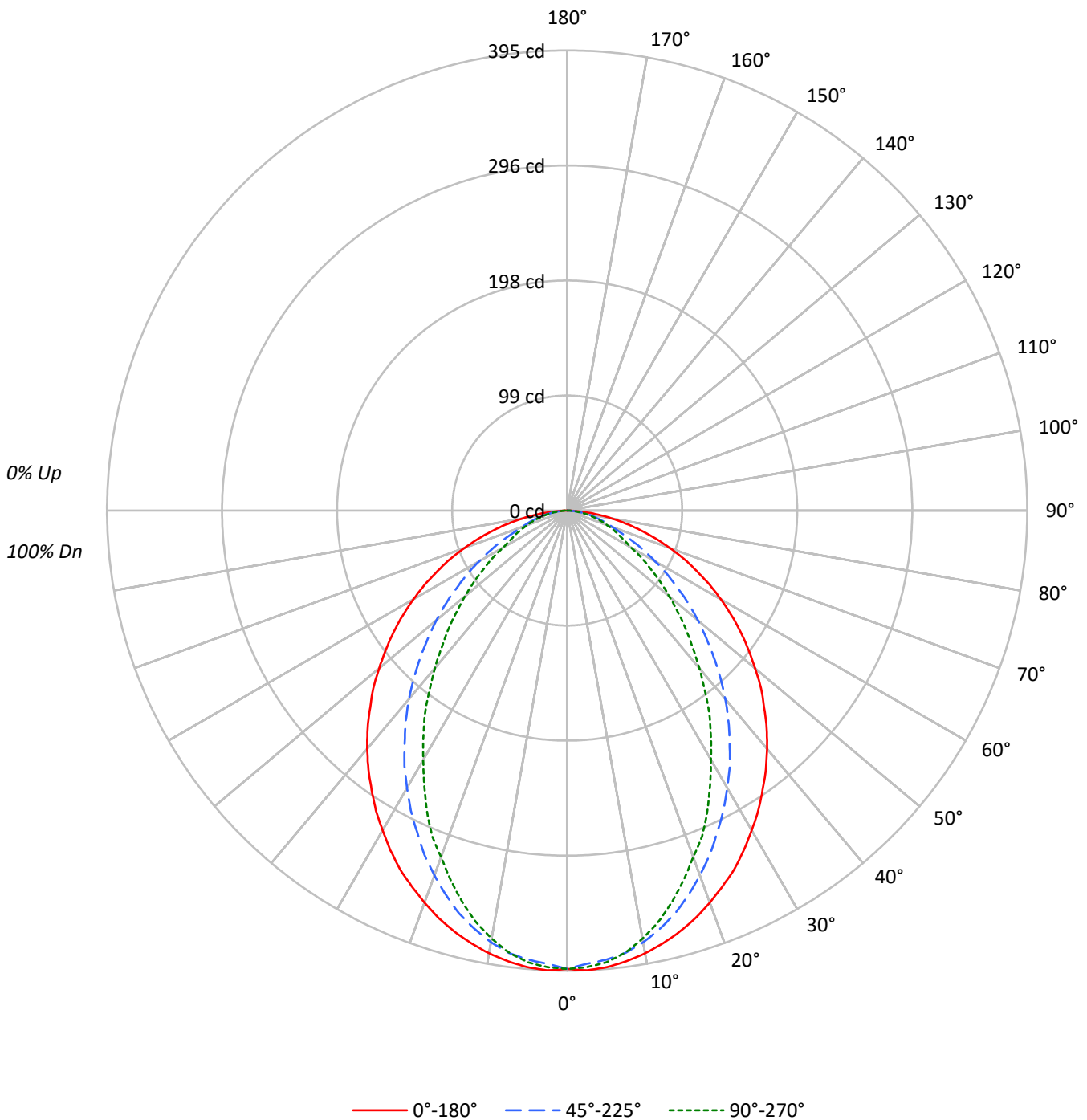
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 809.0 lumens  
Efficiency: N/A  
Efficacy: 69.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
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

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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	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	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86																												
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74																												
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64																												
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55																												
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49																												
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43																												
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39																												
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35																												
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32																												
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29																												

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

	0°	45°	90°
0°	7493	7493	7493
5°	7522	7398	7440
10°	7464	7278	7216
15°	7377	7062	6858
20°	7259	6754	6416
25°	7137	6404	5986
30°	6968	6044	5433
35°	6804	5653	4951
40°	6639	5249	4391
45°	6443	4795	3884
50°	6244	4335	3387
55°	6041	3842	2909
60°	5806	3322	2415
65°	5535	2790	2199
70°	5213	2300	2022
75°	4820	2097	1884
80°	4256	1876	1722
85°	3344	1486	1486

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6443 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.9	4.6
10°-20°	101.2	12.5
20°-30°	142.1	17.6
30°-40°	154.9	19.1
40°-50°	142.4	17.6
50°-60°	111.8	13.8
60°-70°	72.8	9.0
70°-80°	37.5	4.6
80°-90°	9.6	1.2
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°	280.2	34.6
0°-40°	435.0	53.8
0°-60°	689.2	85.2
0°-90°	809.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	809.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	393	393	393	393	393	
5°	393	392	387	390	389	37
15°	374	370	358	351	348	105
25°	340	328	305	290	285	156
35°	293	274	243	221	213	183
45°	239	215	178	153	144	185
55°	182	154	116	94	88	163
65°	123	94	62	50	49	122
75°	66	41	28	26	26	69
85°	15	8	7	7	7	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	393.4	393.4	393.4	393.4	393.4
2.5°	395.1	393.4	389.4	393.0	392.3
5°	393.4	391.6	386.9	390.2	389.1
7.5°	390.2	388.0	383.0	384.5	382.7
10°	385.9	383.4	376.3	375.2	373.1
12.5°	380.5	377.3	367.7	365.6	361.7
15°	374.1	370.2	358.1	351.4	347.8
17.5°	366.7	361.0	346.0	338.2	332.5
20°	358.1	351.0	333.2	324.3	316.5
22.5°	348.9	340.7	320.0	307.9	302.6
25°	339.6	328.2	304.7	290.1	284.8
27.5°	328.6	316.5	290.5	273.7	265.6
30°	316.8	303.3	274.8	256.7	247.0
32.5°	305.4	289.1	259.9	238.5	229.6
35°	292.6	274.5	243.1	220.7	212.9
37.5°	280.2	260.6	227.5	202.9	194.0
40°	267.0	245.6	211.1	185.8	176.6
42.5°	253.5	230.7	194.7	168.4	159.5
45°	239.2	215.4	178.0	152.7	144.2
47.5°	225.7	200.4	162.0	136.7	128.9
50°	210.7	185.5	146.3	121.7	114.3
52.5°	196.1	169.4	131.4	107.9	101.1
55°	181.9	154.1	115.7	94.3	87.6
57.5°	167.3	138.8	101.8	81.9	76.2
60°	152.4	123.9	87.2	69.1	63.4
62.5°	137.8	109.3	74.8	57.7	54.8
65°	122.8	94.0	61.9	49.8	48.8
67.5°	108.6	79.7	49.8	43.8	42.7
70°	93.6	65.9	41.3	37.7	36.3
72.5°	79.4	53.0	34.5	31.7	31.0
75°	65.5	40.6	28.5	26.0	25.6
77.5°	51.6	28.8	22.4	21.0	20.3
80°	38.8	20.6	17.1	15.7	15.7
82.5°	27.1	13.9	11.7	11.0	11.0
85°	15.3	7.8	6.8	6.8	6.8
87.5°	5.7	2.8	2.8	2.5	2.5
90°	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	18.23	19.75	18.60	20.07	20.38	14.19	15.72	14.56	16.03	16.34
	3H	20.00	21.36	20.37	21.69	22.05	15.46	16.82	15.84	17.15	17.51
	4H	20.66	21.94	21.06	22.29	22.67	15.96	17.24	16.36	17.59	17.97
	6H	21.15	22.33	21.56	22.70	23.09	16.34	17.52	16.75	17.89	18.28
	8H	21.32	22.44	21.74	22.83	23.23	16.47	17.59	16.89	17.98	18.38
	12H	21.42	22.50	21.85	22.88	23.31	16.55	17.63	16.98	18.01	18.44
4H	2H	18.33	19.61	18.73	19.96	20.34	14.89	16.17	15.29	16.52	16.90
	3H	20.27	21.33	20.68	21.73	22.13	16.33	17.39	16.74	17.79	18.19
	4H	21.02	21.97	21.45	22.39	22.83	16.93	17.89	17.36	18.30	18.74
	6H	21.61	22.44	22.07	22.88	23.34	17.42	18.25	17.88	18.69	19.15
	8H	21.82	22.60	22.29	23.05	23.51	17.58	18.36	18.04	18.80	19.27
	12H	21.98	22.67	22.46	23.15	23.62	17.70	18.39	18.18	18.87	19.34
8H	4H	21.04	21.82	21.51	22.26	22.73	17.28	18.06	17.75	18.51	18.97
	6H	21.68	22.32	22.18	22.81	23.29	17.87	18.51	18.37	19.01	19.48
	8H	21.93	22.51	22.44	23.02	23.50	18.09	18.67	18.61	19.18	19.67
	12H	22.13	22.64	22.64	23.14	23.70	18.27	18.78	18.78	19.27	19.84
12H	4H	21.03	21.72	21.51	22.20	22.67	17.33	18.02	17.81	18.50	18.97
	6H	21.66	22.24	22.17	22.75	23.24	17.93	18.51	18.45	19.02	19.51
	8H	21.94	22.45	22.45	22.95	23.51	18.21	18.72	18.72	19.21	19.77