

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: P242250

Luminaire Tested: S122DRP-S290D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242250  
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-S290D927-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

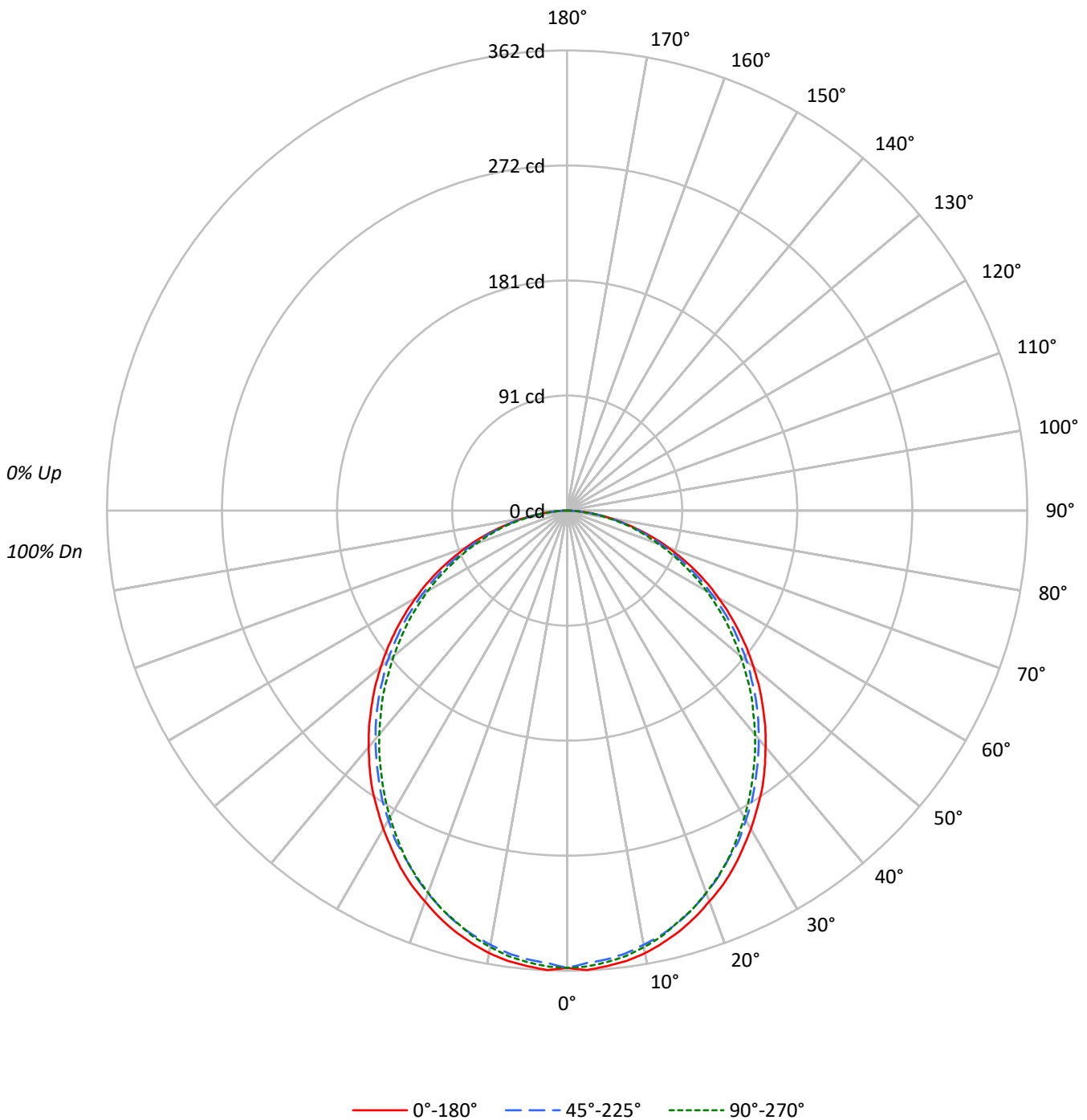
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 915.2 lumens  
Efficiency: N/A  
Efficacy: 78.9 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 (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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84				84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71				71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60				60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51				51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45				45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39				39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35				35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31				31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28				28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	26				26

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

	0°	45°	90°
0°	6851	6851	6851
5°	6878	6778	6818
10°	6837	6710	6744
15°	6752	6624	6616
20°	6632	6493	6484
25°	6513	6332	6332
30°	6361	6185	6132
35°	6218	6009	5920
40°	6037	5831	5719
45°	5862	5657	5517
50°	5669	5473	5278
55°	5466	5260	5064
60°	5246	5006	4823
65°	5003	4755	4539
70°	4700	4450	4238
75°	4276	4099	3996
80°	3795	3686	3488
85°	3103	2950	2644

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5862 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.9	3.7
10°-20°	95.3	10.4
20°-30°	140.0	15.3
30°-40°	162.6	17.8
40°-50°	162.4	17.7
50°-60°	141.6	15.5
60°-70°	104.7	11.4
70°-80°	59.2	6.5
80°-90°	15.6	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°	269.1	29.4
0°-40°	431.7	47.2
0°-60°	735.7	80.4
0°-90°	915.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	915.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	360	360	360	360	360	
5°	360	358	354	357	357	34
15°	342	340	336	337	336	96
25°	310	307	301	302	301	143
35°	267	264	258	256	255	167
45°	218	215	210	206	205	168
55°	165	163	158	154	152	147
65°	111	109	106	102	101	110
75°	58	57	56	54	54	62
85°	14	14	14	12	12	17
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	359.7	359.7	359.7	359.7	359.7
2.5°	361.8	360.1	356.3	359.7	359.0
5°	359.7	358.3	354.5	357.3	356.6
7.5°	357.3	355.2	351.4	354.2	353.5
10°	353.5	351.1	346.9	349.7	348.7
12.5°	348.3	346.2	342.1	343.8	343.1
15°	342.4	340.4	335.9	337.2	335.5
17.5°	335.2	333.1	328.6	330.3	328.6
20°	327.2	325.1	320.3	321.3	319.9
22.5°	319.3	316.1	311.6	311.6	311.0
25°	309.9	307.1	301.3	302.0	301.3
27.5°	299.5	297.1	292.6	291.6	289.9
30°	289.2	286.4	281.2	280.2	278.8
32.5°	278.1	276.0	270.5	268.4	267.0
35°	267.4	263.9	258.4	256.3	254.6
37.5°	255.3	252.2	246.6	244.2	242.5
40°	242.8	240.0	234.5	231.4	230.0
42.5°	230.7	227.9	222.4	218.9	216.9
45°	217.6	215.1	210.0	206.1	204.8
47.5°	204.8	202.3	196.8	193.0	190.9
50°	191.3	189.5	184.7	179.9	178.1
52.5°	178.1	175.7	171.2	167.4	165.0
55°	164.6	162.6	158.4	154.3	152.5
57.5°	151.2	149.4	144.9	140.8	139.4
60°	137.7	136.3	131.4	127.6	126.6
62.5°	124.5	122.1	118.6	115.2	113.8
65°	111.0	109.0	105.5	102.4	100.7
67.5°	97.2	95.5	92.4	89.9	88.5
70°	84.4	83.0	79.9	77.5	76.1
72.5°	71.3	69.9	68.1	65.7	64.7
75°	58.1	57.4	55.7	53.6	54.3
77.5°	46.3	45.0	44.3	43.2	42.2
80°	34.6	34.2	33.6	32.5	31.8
82.5°	23.5	23.5	23.2	21.8	21.8
85°	14.2	13.8	13.5	12.5	12.1
87.5°	6.2	5.5	4.8	3.8	3.5
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	17.97	19.58	18.33	19.89	20.21	17.53	19.14	17.89	19.45	19.76
	3H	19.72	21.17	20.10	21.50	21.86	19.23	20.68	19.60	21.01	21.37
	4H	20.37	21.73	20.76	22.08	22.46	19.87	21.24	20.27	21.59	21.96
	6H	20.83	22.10	21.25	22.47	22.86	20.33	21.60	20.74	21.97	22.36
	8H	20.98	22.19	21.40	22.58	22.98	20.47	21.68	20.90	22.07	22.47
	12H	21.07	22.23	21.50	22.61	23.04	20.56	21.72	20.98	22.10	22.53
4H	2H	18.53	19.90	18.93	20.25	20.62	18.18	19.55	18.58	19.89	20.27
	3H	20.50	21.65	20.91	22.05	22.45	20.10	21.24	20.51	21.64	22.04
	4H	21.28	22.32	21.71	22.73	23.17	20.86	21.89	21.29	22.31	22.74
	6H	21.88	22.78	22.33	23.22	23.68	21.44	22.35	21.90	22.79	23.25
	8H	22.07	22.91	22.53	23.36	23.82	21.63	22.47	22.09	22.92	23.38
	12H	22.20	22.96	22.68	23.43	23.90	21.75	22.51	22.23	22.98	23.45
8H	4H	21.55	22.40	22.02	22.84	23.31	21.18	22.03	21.64	22.47	22.93
	6H	22.27	22.97	22.76	23.46	23.94	21.89	22.59	22.38	23.08	23.55
	8H	22.53	23.16	23.04	23.66	24.15	22.14	22.77	22.65	23.27	23.76
	12H	22.73	23.28	23.23	23.78	24.34	22.31	22.87	22.82	23.36	23.92
12H	4H	21.58	22.34	22.06	22.82	23.29	21.22	21.98	21.70	22.45	22.92
	6H	22.31	22.95	22.82	23.45	23.94	21.94	22.58	22.45	23.08	23.57
	8H	22.63	23.19	23.13	23.68	24.24	22.25	22.81	22.76	23.30	23.86