

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: P242363

Luminaire Tested: S122RDRP-S290D835-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242363  
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-S290D835-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

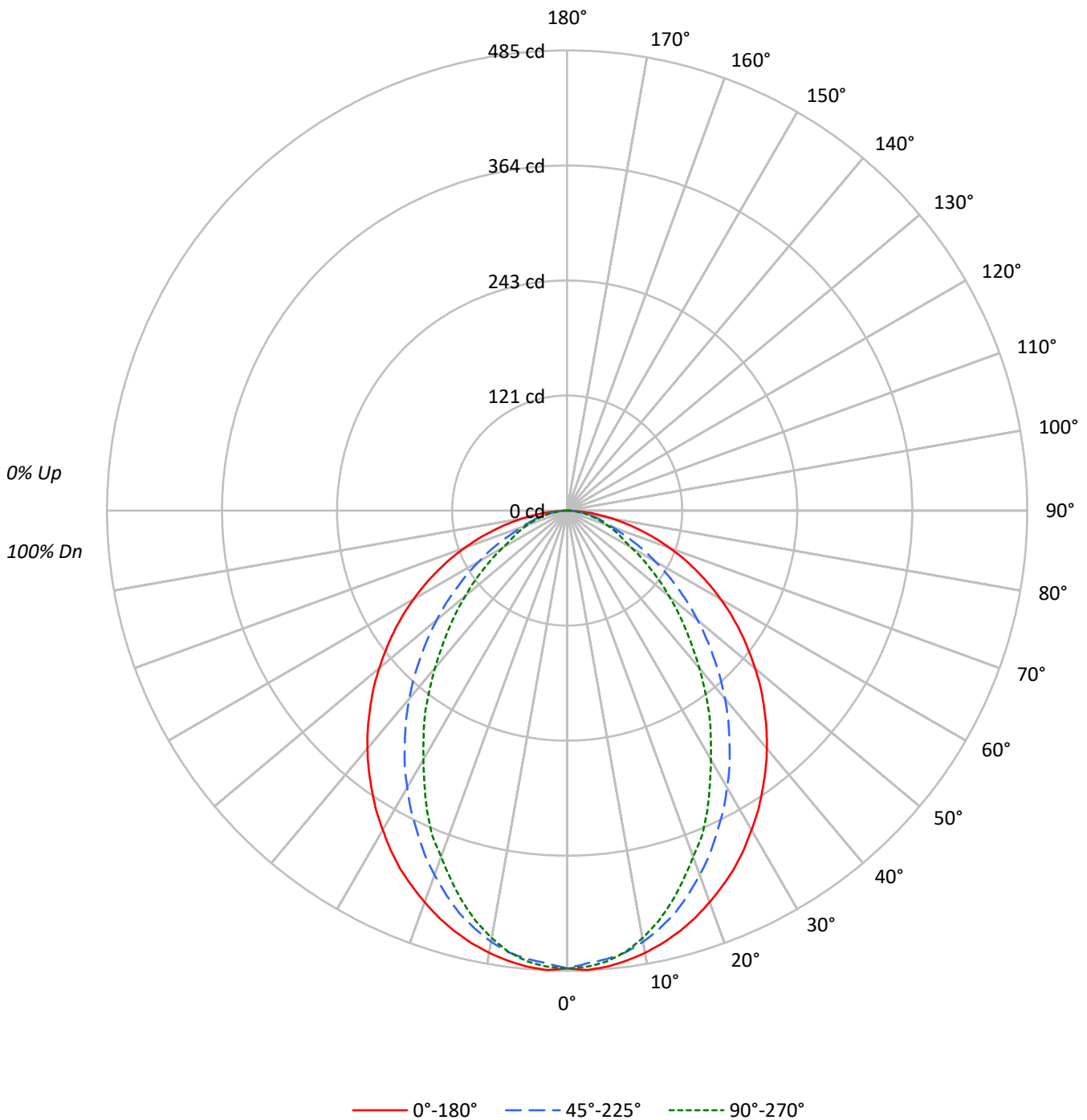
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 992.3 lumens  
Efficiency: N/A  
Efficacy: 85.5 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	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°	9191	9191	9191
5°	9226	9075	9124
10°	9154	8926	8851
15°	9049	8661	8412
20°	8903	8284	7869
25°	8754	7854	7341
30°	8547	7414	6664
35°	8345	6934	6071
40°	8143	6438	5386
45°	7903	5880	4763
50°	7660	5319	4155
55°	7409	4712	3567
60°	7120	4076	2960
65°	6788	3425	2695
70°	6393	2818	2478
75°	5910	2568	2311
80°	5221	2304	2106
85°	4109	1814	1814

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7903 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.2	4.6
10°-20°	124.1	12.5
20°-30°	174.3	17.6
30°-40°	190.0	19.1
40°-50°	174.6	17.6
50°-60°	137.1	13.8
60°-70°	89.2	9.0
70°-80°	46.0	4.6
80°-90°	11.7	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°	343.6	34.6
0°-40°	533.6	53.8
0°-60°	845.3	85.2
0°-90°	992.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	992.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	482	480	475	478	477	46
15°	459	454	439	431	427	129
25°	416	403	374	356	349	192
35°	359	337	298	271	261	225
45°	293	264	218	187	177	227
55°	223	189	142	116	107	199
65°	151	115	76	61	60	149
75°	80	50	35	32	31	85
85°	19	10	8	8	8	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	482.5	482.5	482.5	482.5	482.5
2.5°	484.7	482.5	477.7	482.0	481.2
5°	482.5	480.3	474.6	478.5	477.2
7.5°	478.5	475.9	469.8	471.6	469.4
10°	473.3	470.2	461.5	460.2	457.6
12.5°	466.7	462.8	451.0	448.4	443.6
15°	458.9	454.1	439.2	430.9	426.6
17.5°	449.7	442.7	424.4	414.8	407.8
20°	439.2	430.5	408.7	397.8	388.2
22.5°	427.9	417.8	392.5	377.7	371.1
25°	416.5	402.6	373.7	355.8	349.3
27.5°	403.0	388.2	356.3	335.8	325.7
30°	388.6	372.0	337.1	314.8	303.0
32.5°	374.6	354.5	318.7	292.5	281.6
35°	358.9	336.6	298.2	270.7	261.1
37.5°	343.6	319.6	279.0	248.9	238.0
40°	327.5	301.3	258.9	227.9	216.6
42.5°	310.9	282.9	238.8	206.5	195.6
45°	293.4	264.2	218.3	187.3	176.8
47.5°	276.8	245.8	198.7	167.7	158.1
50°	258.5	227.5	179.5	149.3	140.2
52.5°	240.6	207.8	161.1	132.3	124.0
55°	223.1	189.1	141.9	115.7	107.4
57.5°	205.2	170.3	124.9	100.4	93.4
60°	186.9	151.9	107.0	84.7	77.7
62.5°	169.0	134.0	91.7	70.7	67.2
65°	150.6	115.3	76.0	61.1	59.8
67.5°	133.2	97.8	61.1	53.7	52.4
70°	114.8	80.8	50.6	46.3	44.5
72.5°	97.4	65.1	42.4	38.9	38.0
75°	80.3	49.8	34.9	31.9	31.4
77.5°	63.3	35.4	27.5	25.8	24.9
80°	47.6	25.3	21.0	19.2	19.2
82.5°	33.2	17.0	14.4	13.5	13.5
85°	18.8	9.6	8.3	8.3	8.3
87.5°	7.0	3.5	3.5	3.1	3.1
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	18.94	20.46	19.31	20.78	21.09	14.90	16.42	15.26	16.73	17.05
	3H	20.71	22.07	21.08	22.40	22.76	16.17	17.53	16.54	17.86	18.22
	4H	21.37	22.65	21.77	23.00	23.38	16.67	17.95	17.07	18.30	18.68
	6H	21.86	23.05	22.27	23.41	23.80	17.05	18.23	17.46	18.60	18.99
	8H	22.03	23.15	22.45	23.54	23.94	17.17	18.30	17.60	18.69	19.09
	12H	22.13	23.21	22.56	23.59	24.02	17.25	18.33	17.68	18.71	19.14
4H	2H	19.05	20.33	19.45	20.67	21.05	15.60	16.88	16.00	17.23	17.60
	3H	20.98	22.04	21.39	22.44	22.84	17.04	18.10	17.45	18.50	18.90
	4H	21.73	22.69	22.16	23.10	23.54	17.64	18.60	18.07	19.01	19.45
	6H	22.32	23.15	22.78	23.60	24.05	18.13	18.96	18.59	19.40	19.86
	8H	22.53	23.31	23.00	23.76	24.22	18.29	19.07	18.75	19.51	19.98
	12H	22.69	23.38	23.17	23.86	24.33	18.41	19.10	18.89	19.58	20.05
8H	4H	21.75	22.53	22.22	22.97	23.44	17.99	18.77	18.46	19.22	19.68
	6H	22.39	23.03	22.89	23.52	24.00	18.58	19.22	19.08	19.71	20.19
	8H	22.64	23.22	23.15	23.73	24.21	18.80	19.38	19.31	19.89	20.38
	12H	22.84	23.35	23.35	23.85	24.41	18.98	19.49	19.49	19.98	20.55
12H	4H	21.74	22.43	22.22	22.91	23.38	18.04	18.73	18.52	19.21	19.68
	6H	22.37	22.95	22.88	23.46	23.95	18.64	19.22	19.16	19.73	20.22
	8H	22.66	23.17	23.16	23.66	24.22	18.92	19.43	19.43	19.92	20.48