

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: P243218

Luminaire Tested: S122RDRP-H290D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243218  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-63)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122RDRP-H290D830-X4F0-XX-UDD-F-W  
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

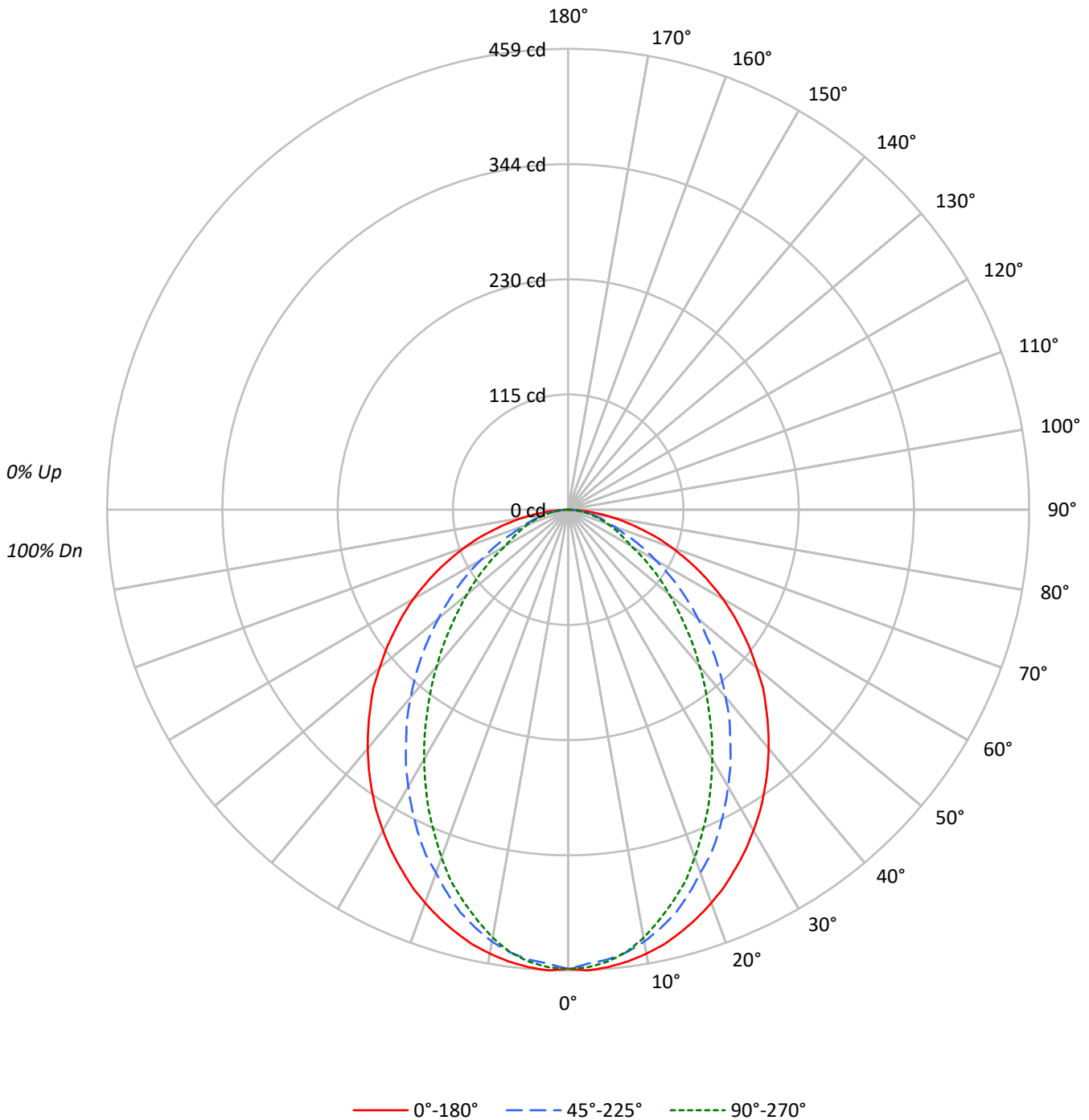
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 937.9 lumens  
Efficiency: N/A  
Efficacy: 83.7 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): 11.2  
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	77	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°	8711	8711	8711
5°	8744	8600	8639
10°	8684	8448	8373
15°	8582	8186	7961
20°	8447	7798	7470
25°	8285	7446	6917
30°	8114	7003	6310
35°	7927	6541	5678
40°	7721	6062	5063
45°	7505	5560	4453
50°	7260	5005	3906
55°	7010	4457	3367
60°	6781	3832	2750
65°	6472	3236	2542
70°	6087	2679	2372
75°	5549	2436	2178
80°	4980	2161	1953
85°	4131	1814	1727

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7505 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	42.8	4.6
10°-20°	117.4	12.5
20°-30°	164.7	17.6
30°-40°	179.4	19.1
40°-50°	164.9	17.6
50°-60°	129.4	13.8
60°-70°	84.4	9.0
70°-80°	43.6	4.7
80°-90°	11.3	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°	324.9	34.6
0°-40°	504.3	53.8
0°-60°	798.5	85.1
0°-90°	937.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	937.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	457	457	457	457	457	
5°	457	455	450	453	452	43
15°	435	430	415	407	404	123
25°	394	380	354	337	329	182
35°	341	318	281	255	244	213
45°	279	250	206	176	165	215
55°	211	180	134	109	101	189
65°	144	109	72	58	56	142
75°	75	47	33	30	30	81
85°	19	9	8	8	8	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	457.3	457.3	457.3	457.3	457.3
2.5°	459.3	457.3	452.6	456.9	456.1
5°	457.3	454.9	449.8	453.0	451.8
7.5°	453.8	451.4	444.7	446.3	444.3
10°	449.0	445.9	436.8	435.2	432.9
12.5°	443.1	438.8	426.5	421.8	418.6
15°	435.2	430.1	415.1	406.8	403.7
17.5°	426.5	419.0	400.5	391.0	387.9
20°	416.7	408.0	384.7	374.8	368.5
22.5°	406.4	395.4	371.3	355.9	348.4
25°	394.2	380.4	354.3	337.0	329.1
27.5°	382.3	366.2	336.6	316.5	307.8
30°	368.9	351.2	318.4	295.1	286.9
32.5°	355.5	335.0	300.7	275.4	265.9
35°	340.9	318.4	281.3	255.3	244.2
37.5°	325.9	302.6	263.6	234.8	224.1
40°	310.5	284.5	243.8	213.9	203.6
42.5°	294.7	268.3	225.3	194.5	184.7
45°	278.6	250.2	206.4	176.4	165.3
47.5°	263.2	232.4	187.0	158.6	148.0
50°	245.0	214.7	168.9	140.1	131.8
52.5°	228.5	196.9	151.1	123.5	116.4
55°	211.1	179.5	134.2	108.9	101.4
57.5°	194.9	161.4	117.2	94.3	87.2
60°	178.0	144.0	100.6	79.7	72.2
62.5°	160.2	126.3	86.0	66.3	63.9
65°	143.6	108.9	71.8	58.4	56.4
67.5°	125.9	92.7	57.2	51.3	49.3
70°	109.3	76.9	48.1	43.8	42.6
72.5°	93.1	61.9	40.6	37.1	35.9
75°	75.4	47.0	33.1	30.4	29.6
77.5°	60.0	33.1	26.4	24.5	23.7
80°	45.4	24.1	19.7	18.5	17.8
82.5°	31.2	16.2	13.8	13.0	12.6
85°	18.9	9.1	8.3	7.9	7.9
87.5°	7.5	3.6	3.6	3.2	3.2
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	18.77	20.29	19.13	20.60	20.92	14.65	16.17	15.02	16.49	16.80
	3H	20.53	21.90	20.91	22.23	22.59	15.95	17.31	16.32	17.64	18.00
	4H	21.20	22.48	21.60	22.83	23.20	16.45	17.73	16.85	18.08	18.46
	6H	21.69	22.87	22.10	23.24	23.63	16.84	18.02	17.25	18.39	18.78
	8H	21.85	22.98	22.28	23.37	23.77	16.96	18.09	17.39	18.48	18.88
	12H	21.96	23.04	22.39	23.42	23.85	17.04	18.12	17.47	18.50	18.93
4H	2H	18.87	20.15	19.27	20.50	20.88	15.36	16.64	15.76	16.99	17.37
	3H	20.81	21.87	21.22	22.27	22.67	16.83	17.89	17.24	18.29	18.69
	4H	21.55	22.51	21.98	22.92	23.36	17.44	18.39	17.87	18.81	19.25
	6H	22.14	22.97	22.60	23.42	23.88	17.93	18.76	18.39	19.21	19.66
	8H	22.36	23.13	22.82	23.58	24.05	18.09	18.87	18.55	19.31	19.78
	12H	22.52	23.21	23.00	23.69	24.16	18.21	18.90	18.69	19.38	19.85
8H	4H	21.58	22.35	22.04	22.80	23.26	17.80	18.58	18.26	19.02	19.49
	6H	22.21	22.86	22.71	23.35	23.82	18.39	19.03	18.89	19.53	20.00
	8H	22.46	23.04	22.98	23.55	24.04	18.61	19.19	19.13	19.70	20.19
	12H	22.68	23.19	23.19	23.68	24.24	18.79	19.30	19.30	19.80	20.36
12H	4H	21.56	22.26	22.04	22.73	23.20	17.84	18.54	18.32	19.01	19.49
	6H	22.19	22.77	22.71	23.28	23.77	18.45	19.03	18.97	19.54	20.03
	8H	22.48	22.99	22.99	23.48	24.05	18.73	19.24	19.24	19.73	20.30