

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: P242549

Luminaire Tested: S123RDRP-S340D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242549  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-25)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-S340D935-X4F0-XX-UDD-F-W  
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

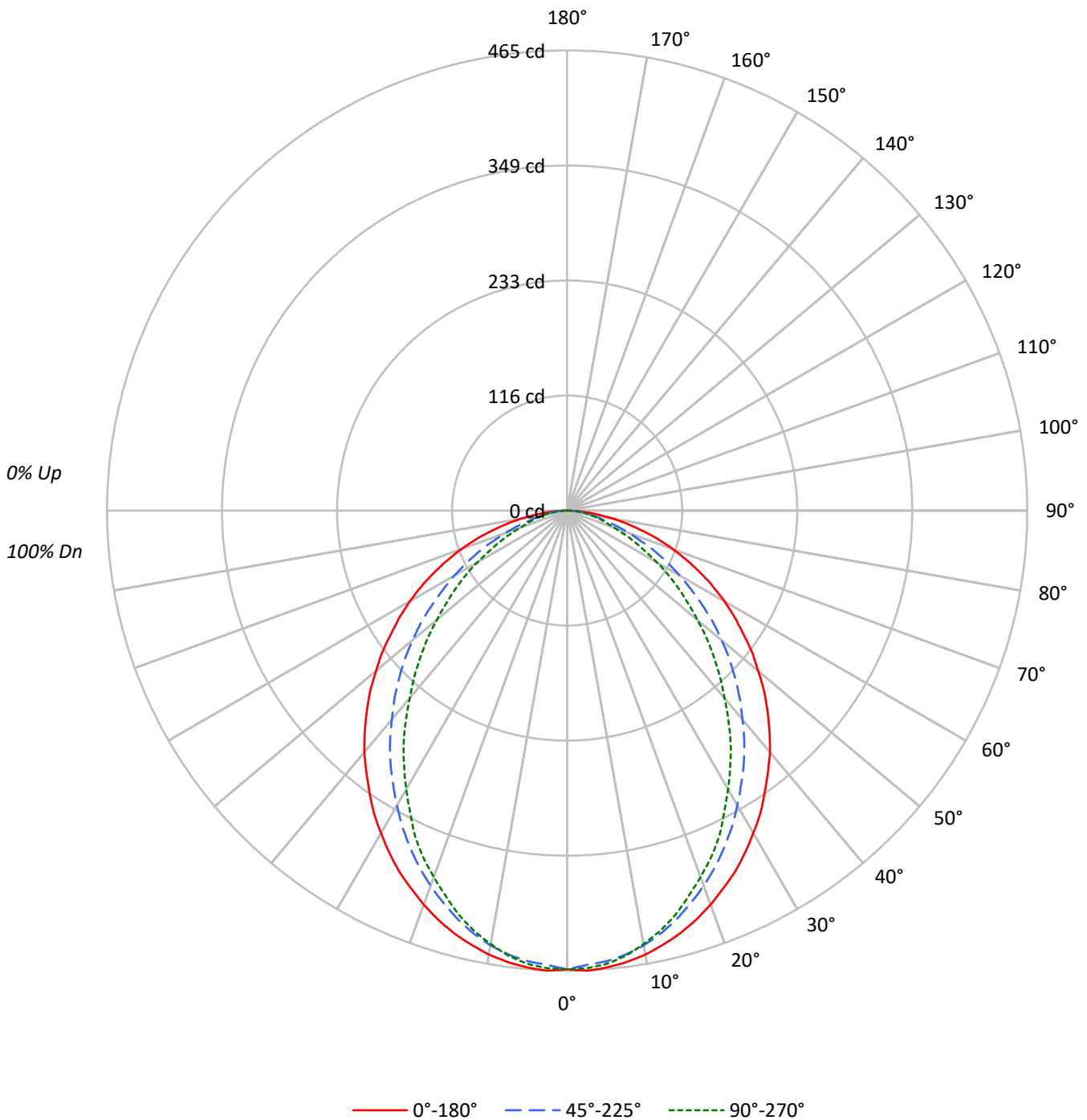
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1047.2 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22  
Luminous Opening: Rectangular (W 0.23' 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																		
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	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	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86																												
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73																												
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62																												
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54																												
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47																												
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44	42																												
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37																												
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34																												
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30																												
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28																												

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

	0°	45°	90°
0°	5618	5618	5618
5°	5640	5562	5595
10°	5608	5492	5473
15°	5548	5363	5307
20°	5465	5204	5082
25°	5379	5023	4862
30°	5267	4815	4552
35°	5151	4606	4266
40°	5044	4361	3915
45°	4904	4118	3596
50°	4750	3843	3240
55°	4592	3527	2908
60°	4448	3190	2543
65°	4259	2825	2177
70°	4022	2371	1758
75°	3681	1864	1653
80°	3281	1654	1522
85°	2768	1460	1363

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4904 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.6	4.2
10°-20°	121.2	11.6
20°-30°	174.5	16.7
30°-40°	196.6	18.8
40°-50°	188.0	18.0
50°-60°	153.9	14.7
60°-70°	103.8	9.9
70°-80°	52.0	5.0
80°-90°	13.6	1.3
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°	339.3	32.4
0°-40°	535.9	51.2
0°-60°	877.8	83.8
0°-90°	1047.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1047.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	464	464	464	464	464	
5°	464	462	457	460	460	44
15°	442	438	427	426	423	125
25°	402	393	376	368	364	185
35°	348	335	311	295	288	218
45°	286	269	240	219	210	221
55°	217	199	167	145	138	195
65°	148	128	98	80	76	147
75°	79	60	40	36	35	84
85°	20	12	10	10	10	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	463.5	463.5	463.5	463.5	463.5
2.5°	465.4	463.9	459.4	463.5	462.8
5°	463.5	461.6	457.1	460.5	459.8
7.5°	460.1	458.3	452.6	454.9	453.8
10°	455.6	453.0	446.2	446.6	444.7
12.5°	449.2	446.2	437.6	437.2	435.0
15°	442.1	438.0	427.4	425.6	422.9
17.5°	433.5	428.9	415.8	412.0	408.3
20°	423.7	417.7	403.4	398.5	394.0
22.5°	412.8	405.6	390.2	383.8	379.7
25°	402.2	392.9	375.6	367.7	363.5
27.5°	389.5	379.3	360.5	350.0	343.6
30°	376.3	365.0	344.0	331.2	325.2
32.5°	363.2	350.0	327.4	313.2	306.8
35°	348.1	334.6	311.3	295.1	288.3
37.5°	333.1	318.4	294.0	275.9	267.7
40°	318.8	302.3	275.6	256.0	247.4
42.5°	302.6	286.1	258.3	236.5	228.9
45°	286.1	269.2	240.2	218.8	209.8
47.5°	269.9	251.1	222.6	199.2	191.4
50°	251.9	234.2	203.8	180.4	171.8
52.5°	235.7	216.2	186.1	161.7	154.1
55°	217.3	198.9	166.9	145.1	137.6
57.5°	200.7	180.8	148.5	127.8	121.4
60°	183.5	162.8	131.6	111.3	104.9
62.5°	166.2	145.5	114.3	95.5	88.7
65°	148.5	127.8	98.5	80.1	75.9
67.5°	130.8	109.8	81.2	67.3	62.8
70°	113.5	93.2	66.9	53.8	49.6
72.5°	96.2	76.3	53.0	42.9	41.7
75°	78.6	60.5	39.8	36.1	35.3
77.5°	62.4	45.9	31.2	28.9	28.2
80°	47.0	31.6	23.7	22.6	21.8
82.5°	32.3	19.5	16.9	15.8	15.8
85°	19.9	11.7	10.5	9.8	9.8
87.5°	9.0	4.9	4.9	4.5	4.1
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	17.44	19.00	17.81	19.31	19.63	14.82	16.37	15.18	16.68	17.00
	3H	19.22	20.62	19.60	20.95	21.31	15.93	17.33	16.30	17.65	18.01
	4H	19.88	21.19	20.28	21.54	21.92	16.32	17.63	16.72	17.98	18.36
	6H	20.36	21.58	20.77	21.94	22.33	16.64	17.85	17.05	18.22	18.61
	8H	20.51	21.67	20.94	22.06	22.46	16.75	17.91	17.18	18.30	18.70
	12H	20.62	21.72	21.05	22.10	22.53	16.83	17.93	17.26	18.31	18.74
4H	2H	17.70	19.02	18.10	19.36	19.74	15.53	16.84	15.93	17.19	17.57
	3H	19.67	20.76	20.08	21.16	21.56	16.81	17.90	17.22	18.30	18.70
	4H	20.44	21.42	20.87	21.83	22.27	17.29	18.27	17.72	18.68	19.12
	6H	21.03	21.89	21.49	22.33	22.79	17.70	18.56	18.16	19.00	19.46
	8H	21.22	22.02	21.69	22.47	22.93	17.85	18.65	18.31	19.09	19.56
	12H	21.37	22.09	21.85	22.56	23.03	17.96	18.68	18.44	19.15	19.63
8H	4H	20.49	21.29	20.95	21.74	22.20	17.61	18.41	18.07	18.85	19.32
	6H	21.15	21.82	21.65	22.31	22.78	18.12	18.78	18.62	19.27	19.75
	8H	21.39	21.98	21.90	22.49	22.98	18.32	18.92	18.84	19.43	19.92
	12H	21.59	22.11	22.10	22.60	23.17	18.50	19.02	19.01	19.51	20.08
12H	4H	20.48	21.20	20.96	21.67	22.15	17.65	18.37	18.13	18.84	19.31
	6H	21.14	21.74	21.65	22.24	22.73	18.18	18.78	18.69	19.28	19.77
	8H	21.41	21.94	21.92	22.43	22.99	18.44	18.96	18.95	19.45	20.02