

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: P242618

Luminaire Tested: S124DRP-S350D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242618  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-S350D935-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

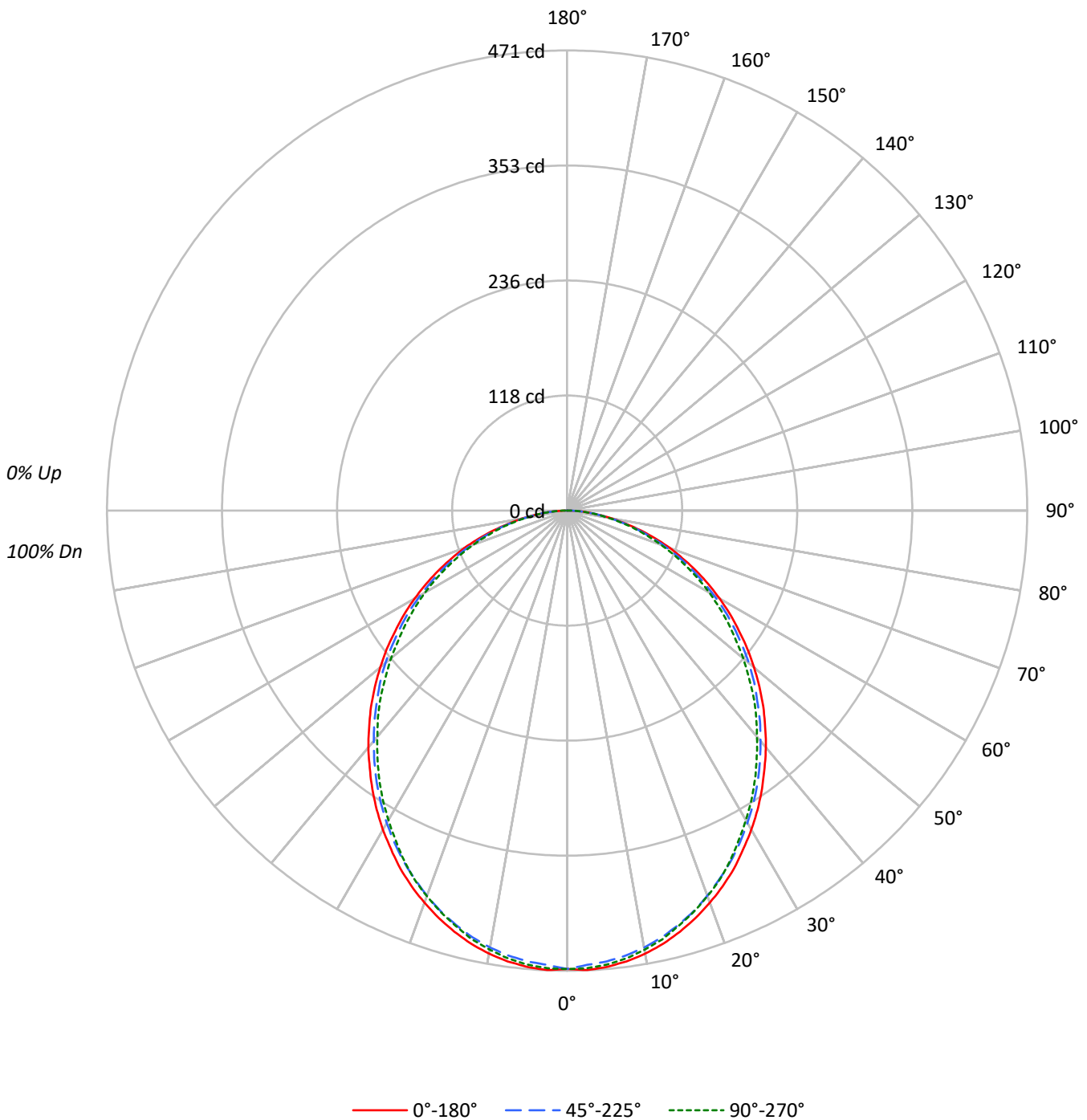
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1204.2 lumens  
Efficiency: N/A  
Efficacy: 103.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29  
Luminous Opening: Rectangular (W 0.31' 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	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	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84																												
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70																												
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60																												
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51																												
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44																												
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39																												
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35																												
8	61	48	39	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31																												
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28																												
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25																												

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

	0°	45°	90°
0°	4171	4171	4171
5°	4183	4133	4163
10°	4156	4099	4119
15°	4106	4041	4051
20°	4040	3968	3972
25°	3963	3886	3875
30°	3871	3789	3755
35°	3773	3687	3638
40°	3673	3573	3508
45°	3568	3459	3393
50°	3452	3359	3254
55°	3327	3228	3123
60°	3202	3081	2987
65°	3060	2940	2823
70°	2903	2755	2648
75°	2658	2531	2466
80°	2365	2273	2211
85°	2070	1989	1958

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3568 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.2	3.7
10°-20°	124.6	10.3
20°-30°	183.4	15.2
30°-40°	213.1	17.7
40°-50°	213.1	17.7
50°-60°	186.4	15.5
60°-70°	138.4	11.5
70°-80°	78.5	6.5
80°-90°	22.5	1.9
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°	352.2	29.2
0°-40°	565.3	46.9
0°-60°	964.8	80.1
0°-90°	1204.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1204.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	469	469	469	469	469	
5°	469	467	463	467	466	44
15°	446	445	439	441	440	126
25°	404	402	396	397	395	186
35°	348	345	340	337	335	217
45°	284	281	275	271	270	219
55°	215	214	208	204	202	192
65°	146	144	140	136	134	144
75°	77	76	74	72	72	82
85°	20	20	20	20	19	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	469.2	469.2	469.2	469.2	469.2
2.5°	470.7	469.5	465.4	469.2	468.8
5°	468.8	467.3	463.2	467.3	466.5
7.5°	465.4	463.9	459.4	462.8	462.4
10°	460.5	459.0	454.1	457.1	456.4
12.5°	454.1	452.6	447.4	450.7	449.6
15°	446.2	444.7	439.1	441.3	440.2
17.5°	437.2	435.3	430.1	431.6	430.8
20°	427.1	425.2	419.5	420.7	419.9
22.5°	416.2	413.5	407.9	410.1	408.6
25°	404.1	401.5	396.2	396.6	395.1
27.5°	390.6	388.0	383.1	382.3	380.4
30°	377.1	374.1	369.2	367.7	365.8
32.5°	362.8	360.1	354.9	353.0	351.1
35°	347.7	345.1	339.8	337.2	335.3
37.5°	331.9	329.7	324.1	321.4	318.8
40°	316.5	313.5	307.9	304.1	302.3
42.5°	300.0	298.5	292.1	287.6	286.5
45°	283.8	281.2	275.2	271.0	269.9
47.5°	266.9	265.0	259.4	254.9	251.9
50°	249.6	248.1	242.9	237.6	235.3
52.5°	232.7	230.8	225.2	220.7	217.7
55°	214.7	213.5	208.3	203.8	201.5
57.5°	197.7	196.6	191.4	186.8	184.6
60°	180.1	178.2	173.3	169.9	168.0
62.5°	162.8	161.3	156.0	153.0	151.1
65°	145.5	143.6	139.8	136.1	134.2
67.5°	127.8	126.3	122.6	118.8	118.4
70°	111.7	109.0	106.0	103.0	101.9
72.5°	94.4	91.7	89.5	87.2	86.1
75°	77.4	75.6	73.7	72.2	71.8
77.5°	60.9	60.1	58.3	57.9	56.8
80°	46.2	45.1	44.4	43.6	43.2
82.5°	32.0	31.6	31.6	31.2	30.8
85°	20.3	20.3	19.5	19.5	19.2
87.5°	9.8	9.4	9.0	9.0	9.0
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	16.26	17.87	16.62	18.19	18.50	15.88	17.50	16.25	17.81	18.13
	3H	18.02	19.48	18.40	19.80	20.17	17.60	19.05	17.97	19.38	19.74
	4H	18.67	20.05	19.07	20.40	20.77	18.24	19.61	18.64	19.96	20.34
	6H	19.15	20.42	19.56	20.79	21.18	18.72	19.99	19.13	20.35	20.74
	8H	19.30	20.51	19.72	20.90	21.30	18.87	20.09	19.30	20.48	20.88
	12H	19.40	20.57	19.83	20.95	21.38	18.98	20.15	19.41	20.53	20.96
4H	2H	16.83	18.20	17.23	18.55	18.93	16.53	17.90	16.93	18.25	18.63
	3H	18.81	19.96	19.22	20.36	20.76	18.46	19.61	18.87	20.01	20.41
	4H	19.59	20.63	20.02	21.05	21.48	19.23	20.27	19.66	20.68	21.12
	6H	20.20	21.10	20.65	21.55	22.00	19.83	20.74	20.29	21.18	21.64
	8H	20.39	21.25	20.86	21.69	22.15	20.04	20.89	20.50	21.33	21.80
	12H	20.55	21.31	21.03	21.79	22.25	20.19	20.96	20.67	21.43	21.90
8H	4H	19.87	20.72	20.33	21.16	21.63	19.55	20.40	20.01	20.84	21.31
	6H	20.59	21.30	21.08	21.79	22.26	20.27	20.98	20.77	21.47	21.94
	8H	20.86	21.50	21.37	22.00	22.49	20.55	21.19	21.06	21.69	22.18
	12H	21.09	21.65	21.60	22.14	22.70	20.78	21.35	21.29	21.84	22.40
12H	4H	19.90	20.66	20.38	21.14	21.61	19.58	20.35	20.06	20.82	21.29
	6H	20.64	21.28	21.15	21.78	22.27	20.33	20.97	20.84	21.47	21.96
	8H	20.97	21.53	21.48	22.02	22.58	20.67	21.23	21.18	21.72	22.28