

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: P242599

Luminaire Tested: S124DRP-S350D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242599  
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-S350D830-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

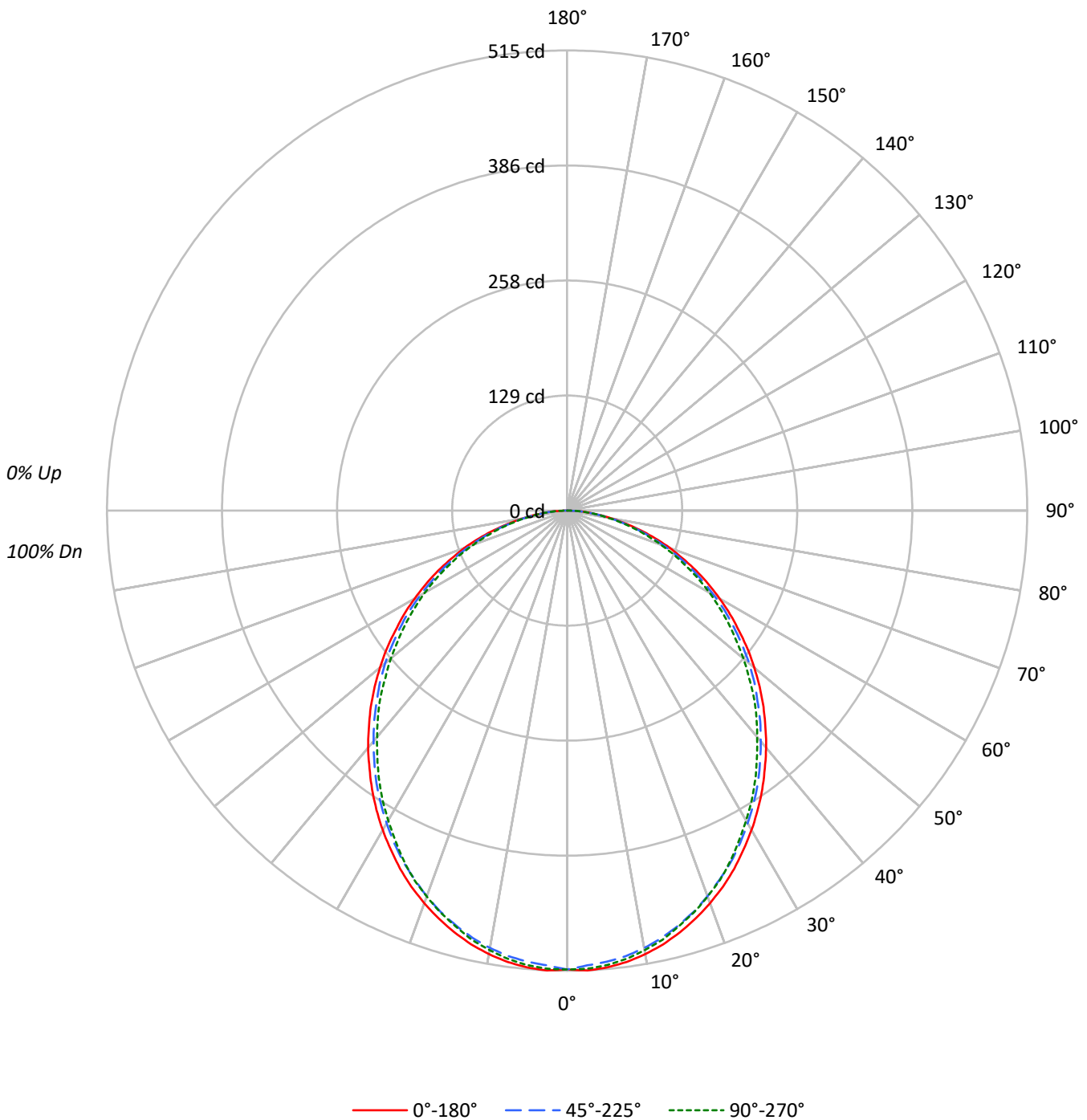
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1318.3 lumens  
Efficiency: N/A  
Efficacy: 113.6 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°	4565	4565	4565
5°	4579	4524	4557
10°	4550	4487	4509
15°	4495	4424	4435
20°	4422	4345	4348
25°	4339	4255	4242
30°	4237	4148	4110
35°	4131	4037	3984
40°	4021	3910	3840
45°	3906	3786	3715
50°	3779	3677	3562
55°	3642	3533	3419
60°	3504	3372	3271
65°	3351	3220	3090
70°	3176	3017	2898
75°	2912	2772	2699
80°	2590	2488	2421
85°	2264	2183	2142

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3906 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.4	3.7
10°-20°	136.4	10.3
20°-30°	200.7	15.2
30°-40°	233.3	17.7
40°-50°	233.3	17.7
50°-60°	204.1	15.5
60°-70°	151.5	11.5
70°-80°	86.0	6.5
80°-90°	24.6	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°	385.5	29.2
0°-40°	618.8	46.9
0°-60°	1056.2	80.1
0°-90°	1318.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1318.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	514	514	514	514	514	
5°	513	512	507	512	511	49
15°	488	487	481	483	482	138
25°	442	440	434	434	432	204
35°	381	378	372	369	367	238
45°	311	308	301	297	296	240
55°	235	234	228	223	221	210
65°	159	157	153	149	147	158
75°	85	83	81	79	79	90
85°	22	22	21	21	21	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	513.6	513.6	513.6	513.6	513.6
2.5°	515.2	514.0	509.5	513.6	513.2
5°	513.2	511.5	507.0	511.5	510.7
7.5°	509.5	507.8	502.9	506.6	506.2
10°	504.1	502.5	497.1	500.4	499.6
12.5°	497.1	495.5	489.7	493.4	492.2
15°	488.5	486.8	480.7	483.1	481.9
17.5°	478.6	476.6	470.8	472.4	471.6
20°	467.5	465.4	459.3	460.5	459.7
22.5°	455.6	452.7	446.5	449.0	447.3
25°	442.4	439.5	433.8	434.2	432.5
27.5°	427.6	424.7	419.4	418.5	416.5
30°	412.8	409.5	404.1	402.5	400.4
32.5°	397.1	394.3	388.5	386.4	384.4
35°	380.7	377.8	372.0	369.1	367.1
37.5°	363.4	360.9	354.7	351.9	349.0
40°	346.5	343.2	337.0	332.9	330.9
42.5°	328.4	326.8	319.8	314.8	313.6
45°	310.7	307.8	301.2	296.7	295.5
47.5°	292.2	290.1	284.0	279.0	275.7
50°	273.3	271.6	265.9	260.1	257.6
52.5°	254.7	252.7	246.5	241.6	238.3
55°	235.0	233.8	228.0	223.1	220.6
57.5°	216.5	215.2	209.5	204.5	202.1
60°	197.1	195.1	189.7	186.0	184.0
62.5°	178.2	176.5	170.8	167.5	165.4
65°	159.3	157.2	153.1	149.0	146.9
67.5°	139.9	138.3	134.2	130.0	129.6
70°	122.2	119.3	116.1	112.8	111.5
72.5°	103.3	100.4	97.9	95.5	94.2
75°	84.8	82.7	80.7	79.0	78.6
77.5°	66.7	65.8	63.8	63.4	62.1
80°	50.6	49.4	48.6	47.7	47.3
82.5°	35.0	34.6	34.6	34.2	33.7
85°	22.2	22.2	21.4	21.4	21.0
87.5°	10.7	10.3	9.9	9.9	9.9
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	16.57	18.19	16.94	18.50	18.82	16.20	17.81	16.56	18.13	18.44
	3H	18.33	19.79	18.71	20.12	20.48	17.91	19.37	18.29	19.69	20.05
	4H	18.99	20.36	19.39	20.71	21.09	18.55	19.93	18.95	20.27	20.65
	6H	19.46	20.74	19.87	21.10	21.49	19.03	20.30	19.44	20.67	21.06
	8H	19.61	20.83	20.04	21.22	21.62	19.19	20.40	19.61	20.79	21.19
	12H	19.72	20.88	20.15	21.26	21.69	19.30	20.46	19.73	20.84	21.27
4H	2H	17.15	18.52	17.54	18.87	19.24	16.85	18.22	17.25	18.57	18.94
	3H	19.12	20.27	19.53	20.67	21.07	18.78	19.93	19.18	20.32	20.72
	4H	19.91	20.95	20.34	21.36	21.80	19.54	20.58	19.97	21.00	21.43
	6H	20.51	21.42	20.96	21.86	22.32	20.15	21.05	20.60	21.49	21.95
	8H	20.71	21.56	21.17	22.00	22.47	20.35	21.20	20.81	21.64	22.11
	12H	20.86	21.62	21.34	22.10	22.57	20.51	21.27	20.99	21.74	22.21
8H	4H	20.18	21.03	20.64	21.48	21.94	19.86	20.71	20.32	21.16	21.62
	6H	20.91	21.61	21.40	22.10	22.58	20.59	21.29	21.08	21.78	22.26
	8H	21.18	21.81	21.69	22.32	22.80	20.87	21.50	21.38	22.01	22.49
	12H	21.41	21.97	21.91	22.46	23.02	21.10	21.66	21.61	22.15	22.71
12H	4H	20.21	20.98	20.69	21.45	21.92	19.90	20.66	20.38	21.14	21.61
	6H	20.95	21.59	21.46	22.10	22.58	20.65	21.28	21.16	21.79	22.27
	8H	21.28	21.84	21.79	22.34	22.90	20.99	21.55	21.49	22.04	22.60