

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: P242594

Luminaire Tested: S124DRP-S350D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242594  
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-S350D927-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

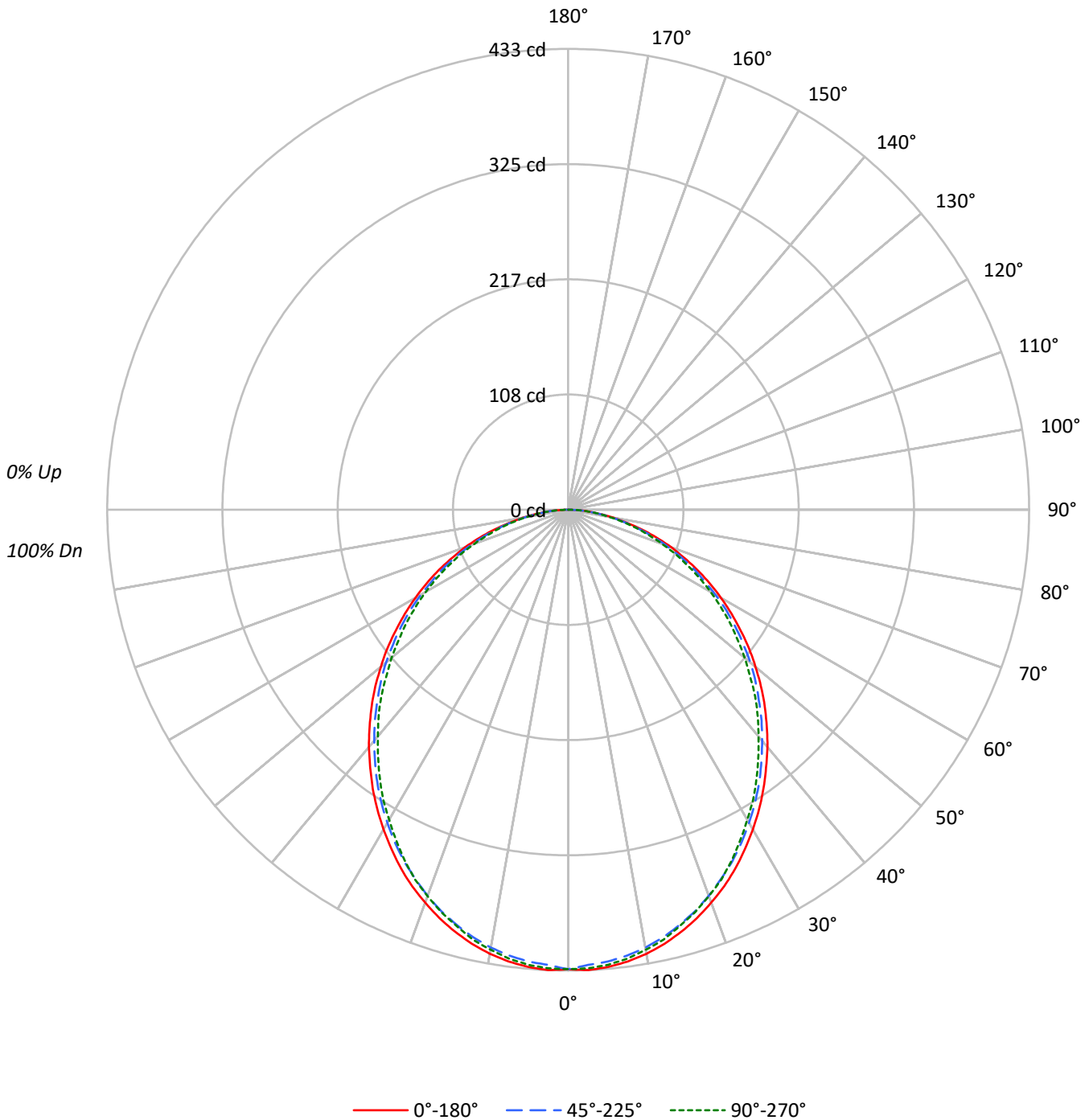
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1108.0 lumens  
Efficiency: N/A  
Efficacy: 95.5 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 (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	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°	3837	3837	3837
5°	3848	3802	3830
10°	3824	3771	3790
15°	3779	3718	3727
20°	3717	3651	3655
25°	3647	3576	3565
30°	3561	3487	3454
35°	3471	3393	3348
40°	3379	3287	3227
45°	3282	3183	3121
50°	3176	3089	2994
55°	3061	2969	2873
60°	2946	2836	2748
65°	2816	2707	2598
70°	2669	2534	2435
75°	2449	2329	2270
80°	2176	2089	2037
85°	1907	1836	1795

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3282 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.7	3.7
10°-20°	114.6	10.3
20°-30°	168.7	15.2
30°-40°	196.1	17.7
40°-50°	196.1	17.7
50°-60°	171.5	15.5
60°-70°	127.3	11.5
70°-80°	72.2	6.5
80°-90°	20.7	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°	324.0	29.2
0°-40°	520.1	46.9
0°-60°	887.7	80.1
0°-90°	1108.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1108.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	431	430	426	430	429	41
15°	411	409	404	406	405	116
25°	372	369	365	365	364	171
35°	320	318	313	310	308	200
45°	261	259	253	249	248	201
55°	198	196	192	188	185	177
65°	134	132	129	125	124	132
75°	71	70	68	66	66	76
85°	19	19	18	18	18	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	431.7	431.7	431.7	431.7	431.7
2.5°	433.0	432.0	428.2	431.7	431.3
5°	431.3	429.9	426.1	429.9	429.2
7.5°	428.2	426.8	422.7	425.8	425.4
10°	423.7	422.3	417.8	420.6	419.9
12.5°	417.8	416.4	411.6	414.7	413.7
15°	410.6	409.2	404.0	406.1	405.0
17.5°	402.3	400.5	395.7	397.1	396.4
20°	392.9	391.2	386.0	387.0	386.4
22.5°	382.9	380.5	375.3	377.4	376.0
25°	371.8	369.4	364.6	364.9	363.5
27.5°	359.4	357.0	352.5	351.8	350.0
30°	346.9	344.2	339.7	338.3	336.5
32.5°	333.8	331.4	326.5	324.8	323.1
35°	319.9	317.5	312.7	310.3	308.5
37.5°	305.4	303.3	298.2	295.7	293.3
40°	291.2	288.5	283.3	279.8	278.1
42.5°	276.0	274.6	268.8	264.6	263.6
45°	261.1	258.7	253.2	249.4	248.3
47.5°	245.6	243.8	238.7	234.5	231.7
50°	229.7	228.3	223.4	218.6	216.5
52.5°	214.1	212.4	207.2	203.0	200.3
55°	197.5	196.5	191.6	187.5	185.4
57.5°	181.9	180.9	176.1	171.9	169.8
60°	165.7	163.9	159.5	156.3	154.6
62.5°	149.8	148.4	143.5	140.8	139.0
65°	133.9	132.1	128.7	125.2	123.5
67.5°	117.6	116.2	112.8	109.3	109.0
70°	102.7	100.3	97.5	94.8	93.7
72.5°	86.8	84.4	82.3	80.2	79.2
75°	71.3	69.5	67.8	66.4	66.1
77.5°	56.0	55.3	53.6	53.3	52.2
80°	42.5	41.5	40.8	40.1	39.8
82.5°	29.4	29.1	29.1	28.7	28.4
85°	18.7	18.7	18.0	18.0	17.6
87.5°	9.0	8.6	8.3	8.3	8.3
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	15.97	17.58	16.34	17.90	18.21	15.59	17.21	15.96	17.52	17.84
	3H	17.73	19.19	18.11	19.52	19.88	17.31	18.77	17.68	19.09	19.45
	4H	18.39	19.76	18.78	20.11	20.48	17.95	19.32	18.35	19.67	20.05
	6H	18.86	20.13	19.27	20.50	20.89	18.43	19.70	18.84	20.06	20.45
	8H	19.01	20.22	19.43	20.61	21.01	18.59	19.80	19.01	20.19	20.59
	12H	19.11	20.28	19.54	20.66	21.09	18.69	19.86	19.12	20.24	20.67
4H	2H	16.54	17.91	16.94	18.26	18.64	16.24	17.62	16.64	17.96	18.34
	3H	18.52	19.67	18.93	20.07	20.47	18.17	19.32	18.58	19.72	20.12
	4H	19.30	20.34	19.73	20.76	21.19	18.94	19.98	19.37	20.39	20.83
	6H	19.91	20.82	20.36	21.26	21.71	19.54	20.45	20.00	20.89	21.35
	8H	20.10	20.96	20.57	21.40	21.86	19.75	20.60	20.21	21.04	21.51
	12H	20.26	21.02	20.74	21.50	21.97	19.90	20.67	20.38	21.14	21.61
8H	4H	19.58	20.43	20.04	20.87	21.34	19.26	20.11	19.72	20.55	21.02
	6H	20.30	21.01	20.79	21.50	21.97	19.98	20.69	20.48	21.18	21.65
	8H	20.57	21.21	21.08	21.71	22.20	20.26	20.90	20.77	21.40	21.89
	12H	20.80	21.36	21.31	21.85	22.41	20.50	21.06	21.00	21.55	22.11
12H	4H	19.61	20.37	20.09	20.85	21.32	19.29	20.06	19.77	20.53	21.00
	6H	20.35	20.99	20.86	21.49	21.98	20.04	20.68	20.55	21.18	21.67
	8H	20.68	21.24	21.19	21.73	22.29	20.38	20.94	20.89	21.44	22.00