

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: P243586

Luminaire Tested: S124RDRP-H350D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243586  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-H350D940-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

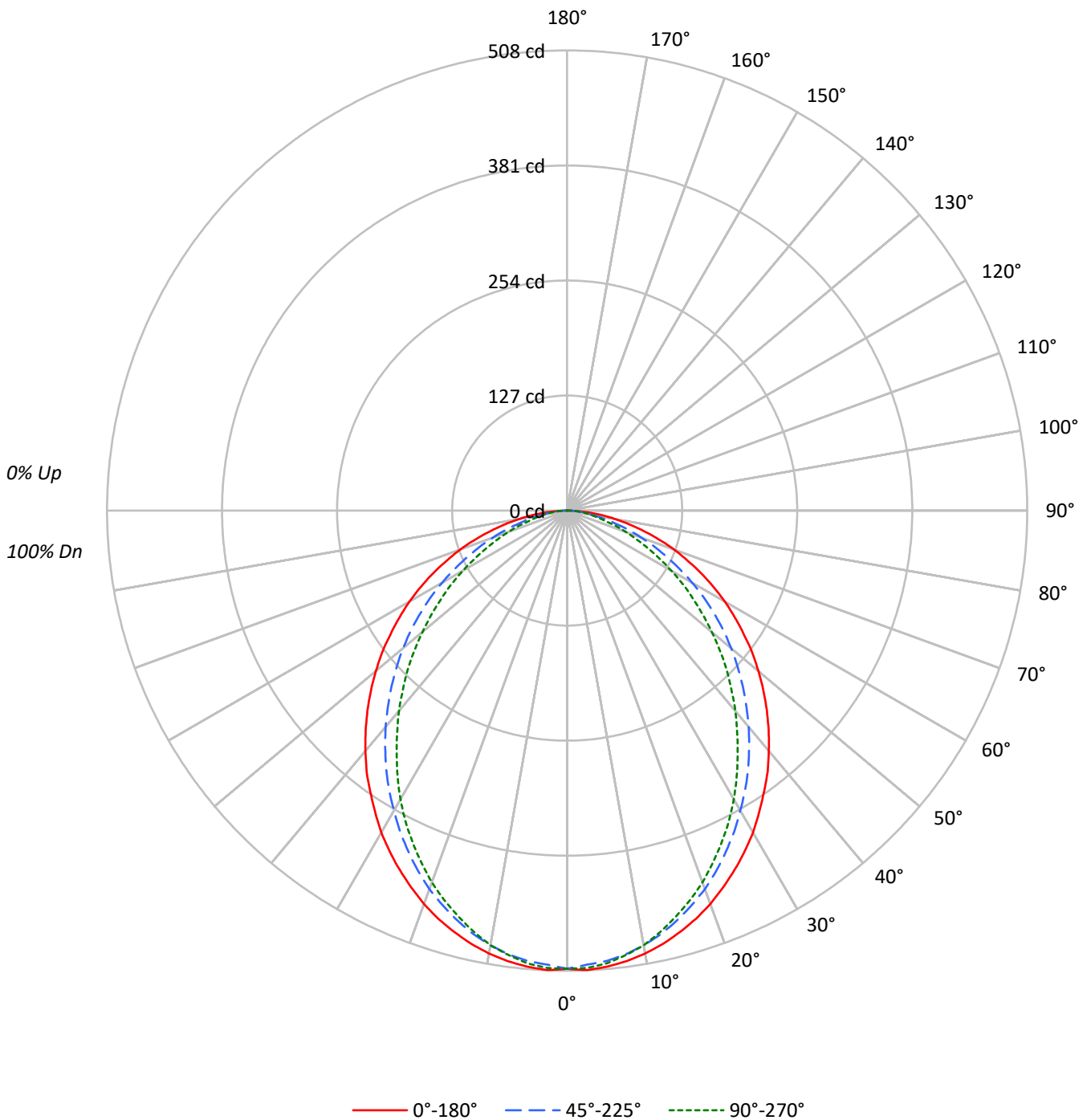
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1192.8 lumens  
Efficiency: N/A  
Efficacy: 106.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.2  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36					36			
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33					33			
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30					30			
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27					27			

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

	0°	45°	90°
0°	4496	4496	4496
5°	4510	4453	4477
10°	4481	4397	4397
15°	4432	4311	4270
20°	4371	4206	4132
25°	4291	4071	3961
30°	4211	3924	3778
35°	4112	3780	3560
40°	4020	3617	3352
45°	3918	3444	3135
50°	3810	3268	2881
55°	3691	3065	2627
60°	3577	2834	2363
65°	3424	2560	2065
70°	3259	2261	1796
75°	3012	1885	1463
80°	2754	1469	1336
85°	2438	1407	1336

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3918 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.6	4.0
10°-20°	132.8	11.1
20°-30°	192.6	16.2
30°-40°	219.6	18.4
40°-50°	213.6	17.9
50°-60°	179.5	15.0
60°-70°	125.0	10.5
70°-80°	64.6	5.4
80°-90°	17.5	1.5
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°	373.1	31.3
0°-40°	592.6	49.7
0°-60°	985.7	82.6
0°-90°	1192.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1192.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	506	506	506	506	506	
5°	505	504	499	503	502	48
15°	482	478	468	468	464	136
25°	438	429	415	409	404	202
35°	379	367	348	335	328	237
45°	312	297	274	256	249	240
55°	238	223	198	178	170	213
65°	163	147	122	104	98	161
75°	88	74	55	46	43	93
85°	24	15	14	13	13	27
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	505.8	505.8	505.8	505.8	505.8
2.5°	507.7	506.2	501.7	505.8	505.4
5°	505.4	504.0	499.1	502.8	501.7
7.5°	501.7	499.8	494.2	496.9	495.0
10°	496.5	494.6	487.2	489.0	487.2
12.5°	489.8	487.2	478.9	479.3	476.3
15°	481.6	477.8	468.5	467.7	464.0
17.5°	472.6	467.7	456.9	455.0	450.9
20°	462.1	456.2	444.6	440.5	436.8
22.5°	450.2	443.1	430.4	425.6	420.7
25°	437.5	429.3	415.1	409.1	403.9
27.5°	424.4	414.7	399.4	392.0	386.7
30°	410.3	399.1	382.3	373.7	368.1
32.5°	394.6	383.4	365.8	355.4	348.3
35°	378.9	367.3	348.3	335.2	328.1
37.5°	363.6	350.5	330.0	316.6	308.3
40°	346.4	332.6	311.7	296.4	288.9
42.5°	329.2	315.1	292.7	276.6	268.4
45°	311.7	296.8	274.0	256.5	249.4
47.5°	293.8	278.9	255.3	237.0	228.8
50°	275.5	260.6	236.3	216.1	208.3
52.5°	257.6	241.9	217.6	197.1	188.9
55°	238.2	222.9	197.8	177.7	169.5
57.5°	219.5	203.4	179.2	158.7	151.9
60°	201.2	185.2	159.4	139.6	132.9
62.5°	181.8	165.7	140.4	121.3	115.3
65°	162.8	147.1	121.7	104.2	98.2
67.5°	143.3	129.2	104.5	87.7	82.9
70°	125.4	109.4	87.0	72.4	69.1
72.5°	106.4	92.2	70.6	58.6	56.0
75°	87.7	74.3	54.9	45.9	42.6
77.5°	70.6	57.5	41.4	34.0	34.0
80°	53.8	42.2	28.7	26.9	26.1
82.5°	38.1	27.3	21.3	19.8	19.4
85°	23.9	15.3	13.8	13.1	13.1
87.5°	11.6	7.1	7.1	6.7	6.7
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	16.67	18.25	17.04	18.56	18.88	14.78	16.35	15.14	16.67	16.98
	3H	18.49	19.91	18.87	20.23	20.60	16.04	17.46	16.42	17.79	18.15
	4H	19.17	20.51	19.57	20.85	21.23	16.44	17.77	16.84	18.12	18.50
	6H	19.69	20.92	20.10	21.29	21.68	16.72	17.95	17.13	18.31	18.71
	8H	19.86	21.03	20.28	21.42	21.82	16.82	17.99	17.24	18.38	18.78
	12H	19.98	21.10	20.41	21.48	21.91	16.90	18.02	17.33	18.40	18.83
4H	2H	17.03	18.36	17.42	18.71	19.08	15.48	16.81	15.88	17.16	17.54
	3H	19.04	20.16	19.45	20.55	20.95	16.93	18.04	17.34	18.44	18.84
	4H	19.85	20.86	20.29	21.27	21.71	17.41	18.41	17.84	18.83	19.26
	6H	20.50	21.37	20.95	21.81	22.27	17.78	18.65	18.23	19.09	19.55
	8H	20.71	21.53	21.18	21.97	22.44	17.91	18.73	18.37	19.17	19.64
	12H	20.88	21.61	21.36	22.09	22.56	18.03	18.76	18.51	19.24	19.71
8H	4H	19.96	20.78	20.42	21.22	21.69	17.74	18.56	18.20	19.00	19.47
	6H	20.69	21.36	21.18	21.85	22.33	18.19	18.87	18.69	19.36	19.84
	8H	20.96	21.57	21.47	22.07	22.56	18.39	18.99	18.90	19.50	19.99
	12H	21.19	21.72	21.70	22.22	22.78	18.57	19.11	19.08	19.60	20.16
12H	4H	19.95	20.68	20.43	21.16	21.63	17.79	18.52	18.27	19.00	19.47
	6H	20.68	21.29	21.19	21.79	22.28	18.26	18.86	18.77	19.37	19.86
	8H	20.99	21.53	21.50	22.02	22.59	18.50	19.04	19.01	19.53	20.09