

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: P243571

Luminaire Tested: S124RDRP-H350D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243571  
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-H350D840-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

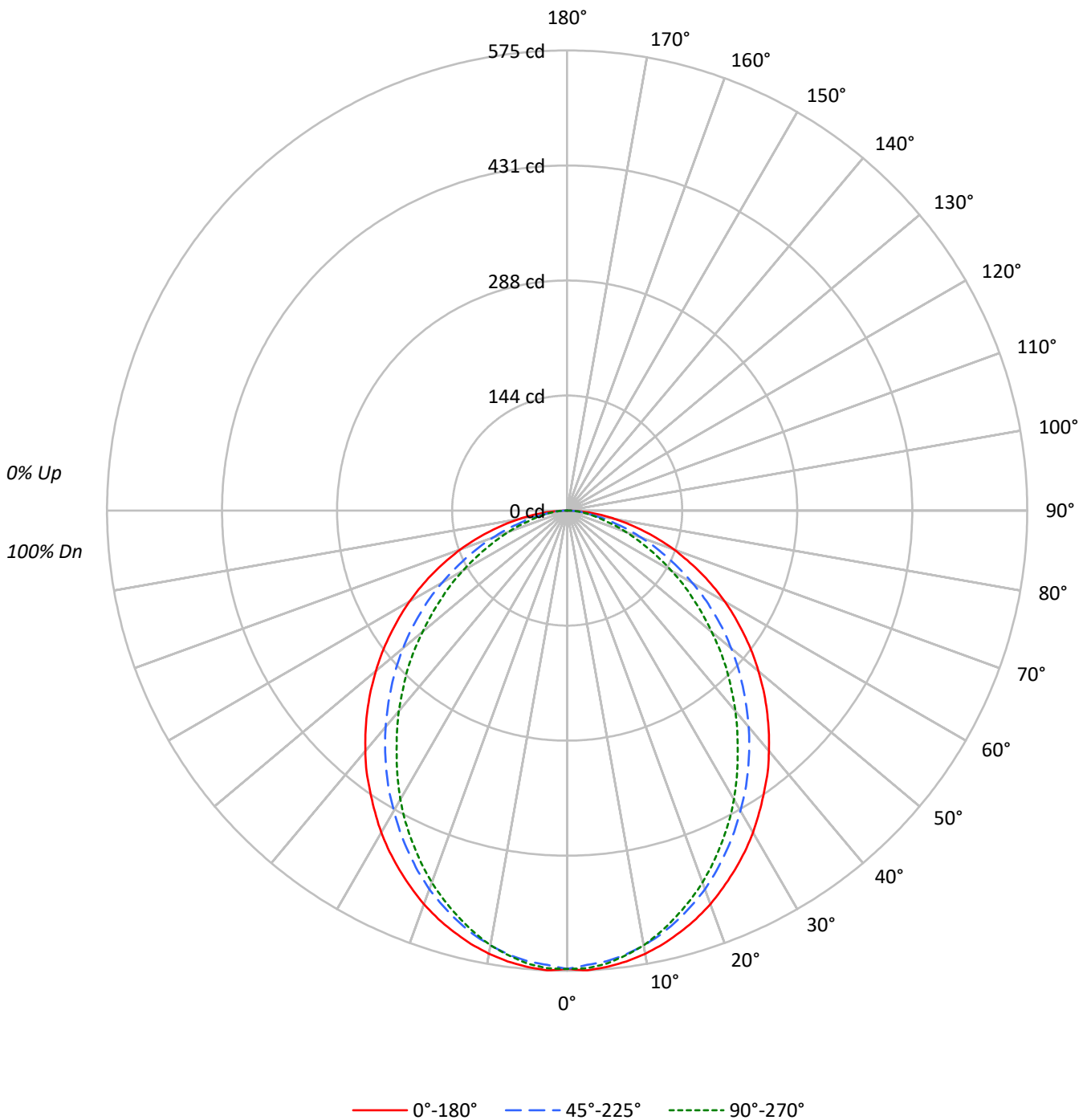
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1350.8 lumens  
Efficiency: N/A  
Efficacy: 120.6 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°	5092	5092	5092
5°	5107	5043	5070
10°	5075	4980	4980
15°	5019	4883	4836
20°	4951	4763	4679
25°	4860	4611	4486
30°	4769	4443	4278
35°	4656	4280	4032
40°	4552	4096	3797
45°	4437	3901	3550
50°	4315	3701	3262
55°	4180	3473	2974
60°	4052	3209	2676
65°	3876	2898	2339
70°	3690	2560	2032
75°	3410	2133	1655
80°	3117	1669	1515
85°	2764	1591	1509

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4437 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.9	4.0
10°-20°	150.4	11.1
20°-30°	218.2	16.2
30°-40°	248.7	18.4
40°-50°	241.9	17.9
50°-60°	203.2	15.0
60°-70°	141.6	10.5
70°-80°	73.1	5.4
80°-90°	19.8	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°	422.5	31.3
0°-40°	671.2	49.7
0°-60°	1116.3	82.6
0°-90°	1350.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1350.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	573	573	573	573	573	
5°	572	571	565	570	568	54
15°	545	541	531	530	526	154
25°	496	486	470	463	457	228
35°	429	416	394	380	372	269
45°	353	336	310	290	282	272
55°	270	252	224	201	192	241
65°	184	167	138	118	111	182
75°	99	84	62	52	48	106
85°	27	17	16	15	15	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	572.8	572.8	572.8	572.8	572.8
2.5°	575.0	573.3	568.2	572.8	572.4
5°	572.4	570.7	565.2	569.5	568.2
7.5°	568.2	566.1	559.7	562.7	560.6
10°	562.3	560.2	551.7	553.8	551.7
12.5°	554.7	551.7	542.4	542.8	539.4
15°	545.4	541.1	530.6	529.7	525.5
17.5°	535.2	529.7	517.5	515.3	510.7
20°	523.4	516.6	503.5	498.9	494.6
22.5°	509.8	501.8	487.4	481.9	476.5
25°	495.5	486.2	470.1	463.3	457.4
27.5°	480.7	469.7	452.4	443.9	438.0
30°	464.6	451.9	432.9	423.2	416.8
32.5°	446.9	434.2	414.3	402.5	394.4
35°	429.1	416.0	394.4	379.6	371.6
37.5°	411.8	397.0	373.7	358.5	349.2
40°	392.3	376.7	353.0	335.7	327.2
42.5°	372.9	356.8	331.4	313.3	304.0
45°	353.0	336.1	310.3	290.4	282.4
47.5°	332.7	315.8	289.2	268.5	259.2
50°	312.0	295.1	267.6	244.8	235.9
52.5°	291.7	273.9	246.5	223.2	213.9
55°	269.7	252.4	224.1	201.2	191.9
57.5°	248.6	230.4	202.9	179.7	172.1
60°	227.9	209.7	180.5	158.1	150.5
62.5°	205.9	187.7	159.0	137.4	130.6
65°	184.3	166.6	137.8	118.0	111.2
67.5°	162.3	146.3	118.4	99.3	93.9
70°	142.0	123.9	98.5	82.0	78.2
72.5°	120.5	104.4	79.9	66.4	63.4
75°	99.3	84.1	62.1	52.0	48.2
77.5°	79.9	65.1	46.9	38.5	38.5
80°	60.9	47.8	32.6	30.4	29.6
82.5°	43.1	30.9	24.1	22.4	22.0
85°	27.1	17.3	15.6	14.8	14.8
87.5°	13.1	8.0	8.0	7.6	7.6
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	17.11	18.68	17.47	19.00	19.31	15.21	16.79	15.57	17.10	17.41
	3H	18.92	20.34	19.30	20.67	21.03	16.47	17.89	16.85	18.22	18.58
	4H	19.60	20.94	20.00	21.29	21.66	16.87	18.20	17.27	18.55	18.93
	6H	20.12	21.35	20.53	21.72	22.11	17.15	18.38	17.56	18.75	19.14
	8H	20.29	21.47	20.71	21.85	22.25	17.25	18.42	17.67	18.81	19.21
	12H	20.41	21.53	20.84	21.92	22.34	17.33	18.45	17.76	18.84	19.27
4H	2H	17.46	18.79	17.86	19.14	19.52	15.91	17.25	16.31	17.59	17.97
	3H	19.48	20.59	19.89	20.99	21.39	17.36	18.47	17.77	18.87	19.27
	4H	20.29	21.29	20.72	21.70	22.14	17.84	18.84	18.27	19.26	19.70
	6H	20.93	21.80	21.38	22.24	22.70	18.21	19.08	18.66	19.52	19.98
	8H	21.15	21.96	21.61	22.41	22.87	18.34	19.16	18.81	19.60	20.07
	12H	21.31	22.04	21.79	22.52	22.99	18.46	19.19	18.94	19.67	20.14
8H	4H	20.39	21.21	20.85	21.65	22.12	18.17	18.99	18.64	19.43	19.90
	6H	21.12	21.79	21.61	22.28	22.76	18.62	19.30	19.12	19.79	20.27
	8H	21.39	22.00	21.90	22.51	22.99	18.82	19.43	19.33	19.93	20.42
	12H	21.62	22.16	22.13	22.65	23.21	19.00	19.54	19.51	20.03	20.59
12H	4H	20.38	21.12	20.87	21.59	22.06	18.22	18.95	18.70	19.43	19.90
	6H	21.11	21.72	21.62	22.23	22.71	18.69	19.30	19.20	19.80	20.29
	8H	21.43	21.96	21.93	22.45	23.02	18.93	19.47	19.44	19.96	20.53