

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: P242702

Luminaire Tested: S124RDRP-S350D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242702  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124RDRP-S350D830-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

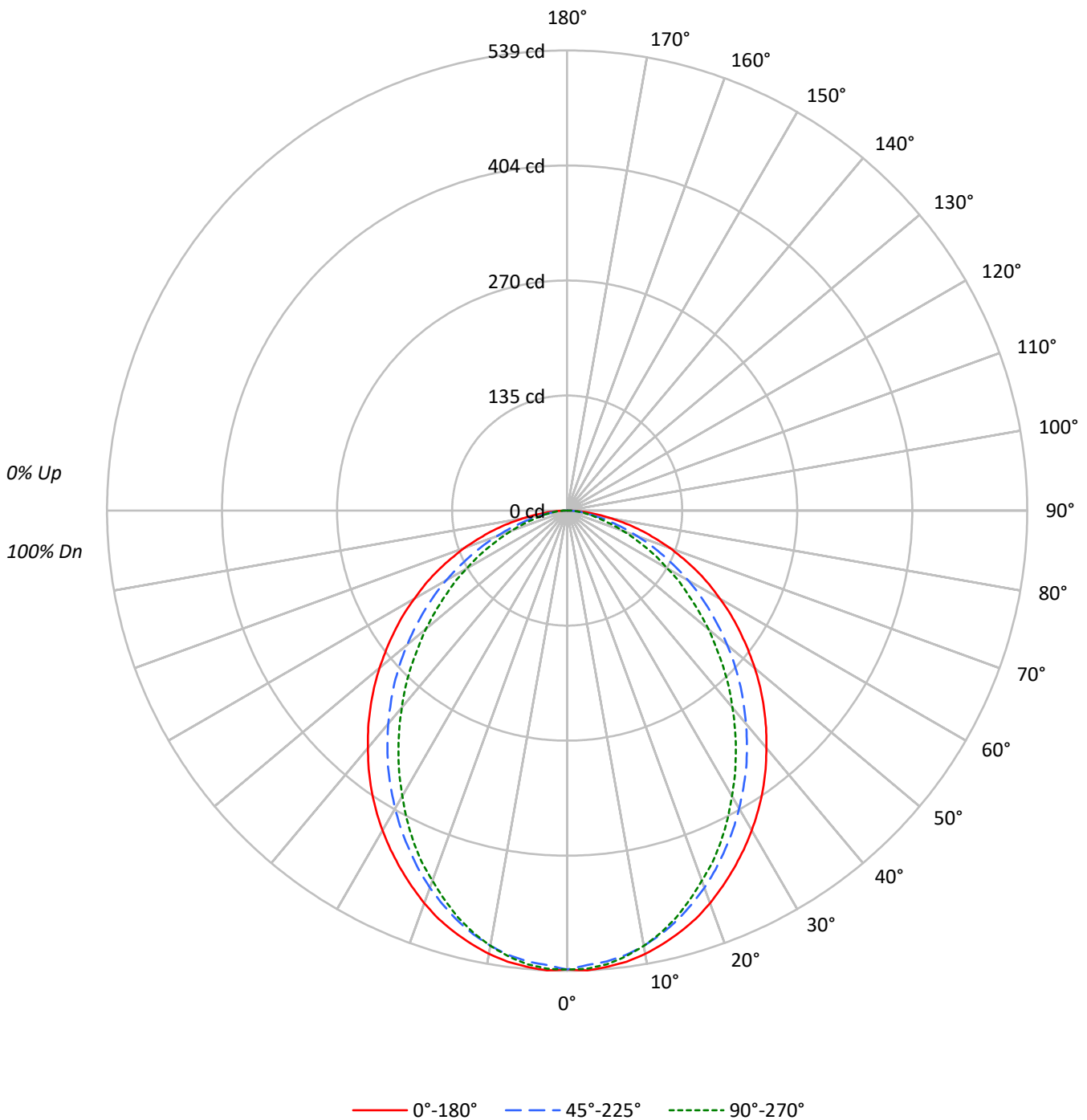
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1241.9 lumens  
Efficiency: N/A  
Efficacy: 107.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	92	90	91	89	87	85
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	74	72
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	65	58	82	72	64	58	69	62	57	67	61	56	65	60	56	54
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	47
6	72	59	51	45	70	58	50	44	57	49	44	55	49	44	53	48	43	41
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	35	29	54	42	34	29	41	34	29	40	33	29	39	33	29	27

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

	0°	45°	90°
0°	4778	4778	4778
5°	4788	4730	4759
10°	4759	4673	4673
15°	4703	4575	4541
20°	4628	4446	4364
25°	4533	4295	4186
30°	4439	4135	3962
35°	4336	3971	3738
40°	4212	3782	3495
45°	4097	3595	3248
50°	3966	3381	2988
55°	3826	3157	2704
60°	3673	2912	2414
65°	3531	2606	2129
70°	3327	2266	1806
75°	3067	1879	1470
80°	2677	1433	1346
85°	2264	1305	1214

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4097 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.5	4.1
10°-20°	140.9	11.3
20°-30°	203.4	16.4
30°-40°	230.6	18.6
40°-50°	222.6	17.9
50°-60°	185.1	14.9
60°-70°	127.8	10.3
70°-80°	64.6	5.2
80°-90°	16.4	1.3
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°	394.9	31.8
0°-40°	625.5	50.4
0°-60°	1033.2	83.2
0°-90°	1241.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1241.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	538	538	538	538	538	
5°	537	535	530	534	533	51
15°	511	507	497	496	493	144
25°	462	455	438	431	427	213
35°	400	386	366	352	344	250
45°	326	311	286	266	258	251
55°	247	230	204	182	174	221
65°	168	150	124	106	101	166
75°	89	74	55	45	43	94
85°	22	14	13	12	12	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	537.5	537.5	537.5	537.5	537.5
2.5°	539.1	537.5	532.9	537.5	537.1
5°	536.6	535.0	530.1	534.2	533.4
7.5°	532.9	531.3	525.1	528.0	526.8
10°	527.2	525.1	517.7	519.4	517.7
12.5°	519.8	517.3	508.2	509.1	506.6
15°	511.1	507.4	497.1	496.3	493.4
17.5°	501.3	495.9	484.0	481.9	477.8
20°	489.3	484.0	470.0	466.7	461.3
22.5°	476.1	470.0	454.7	449.4	445.3
25°	462.2	454.7	437.9	430.9	426.8
27.5°	447.8	438.7	421.0	412.8	407.0
30°	432.5	422.2	402.9	392.6	386.0
32.5°	416.5	404.5	384.4	372.0	365.9
35°	399.6	386.4	365.9	351.9	344.5
37.5°	381.9	368.3	345.7	330.5	323.1
40°	363.0	349.4	325.9	308.7	301.2
42.5°	344.9	330.5	305.8	288.1	280.3
45°	325.9	310.7	286.0	265.9	258.4
47.5°	306.6	291.0	265.4	244.5	236.2
50°	286.8	270.8	244.5	223.9	216.1
52.5°	266.7	251.0	223.9	202.9	194.7
55°	246.9	230.5	203.7	182.3	174.5
57.5°	227.6	210.3	184.0	162.1	156.4
60°	206.6	190.1	163.8	142.4	135.8
62.5°	187.7	170.4	143.2	123.9	118.9
65°	167.9	150.2	123.9	106.2	101.2
67.5°	147.3	130.5	105.8	90.1	84.4
70°	128.0	110.7	87.2	73.7	69.5
72.5°	107.4	92.2	70.4	59.3	55.6
75°	89.3	74.1	54.7	45.3	42.8
77.5°	70.4	57.2	40.7	34.2	33.3
80°	52.3	40.3	28.0	26.7	26.3
82.5°	36.6	25.9	20.2	19.3	18.9
85°	22.2	14.0	12.8	11.9	11.9
87.5°	9.5	6.2	5.8	5.3	5.8
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	16.78	18.34	17.14	18.66	18.97	14.81	16.37	15.17	16.69	17.00
	3H	18.55	19.96	18.92	20.28	20.64	16.06	17.47	16.44	17.80	18.16
	4H	19.21	20.53	19.61	20.88	21.26	16.44	17.76	16.84	18.11	18.49
	6H	19.68	20.91	20.10	21.27	21.67	16.70	17.92	17.11	18.29	18.68
	8H	19.83	21.00	20.26	21.39	21.79	16.79	17.96	17.22	18.35	18.75
	12H	19.93	21.05	20.36	21.43	21.86	16.85	17.97	17.28	18.35	18.78
4H	2H	17.11	18.44	17.51	18.79	19.16	15.50	16.82	15.90	17.17	17.55
	3H	19.08	20.18	19.49	20.58	20.98	16.94	18.04	17.35	18.44	18.84
	4H	19.86	20.85	20.29	21.27	21.71	17.39	18.38	17.82	18.80	19.24
	6H	20.46	21.32	20.91	21.77	22.22	17.74	18.60	18.19	19.05	19.50
	8H	20.65	21.46	21.11	21.90	22.37	17.86	18.67	18.33	19.12	19.58
	12H	20.79	21.51	21.27	21.99	22.46	17.96	18.69	18.44	19.16	19.63
8H	4H	19.96	20.77	20.42	21.21	21.67	17.70	18.51	18.17	18.96	19.42
	6H	20.63	21.30	21.12	21.79	22.26	18.13	18.80	18.63	19.29	19.77
	8H	20.87	21.47	21.38	21.98	22.47	18.31	18.91	18.83	19.42	19.91
	12H	21.07	21.60	21.57	22.09	22.65	18.47	19.00	18.98	19.49	20.05
12H	4H	19.95	20.67	20.43	21.15	21.62	17.74	18.47	18.22	18.94	19.41
	6H	20.62	21.22	21.13	21.73	22.21	18.19	18.79	18.70	19.30	19.78
	8H	20.90	21.43	21.41	21.92	22.48	18.42	18.95	18.93	19.44	20.00