

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: P1055714

Luminaire Tested: S123R3DR-H1165D835-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055714  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1165D835-X4F0-XX-UDD-F-S  
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

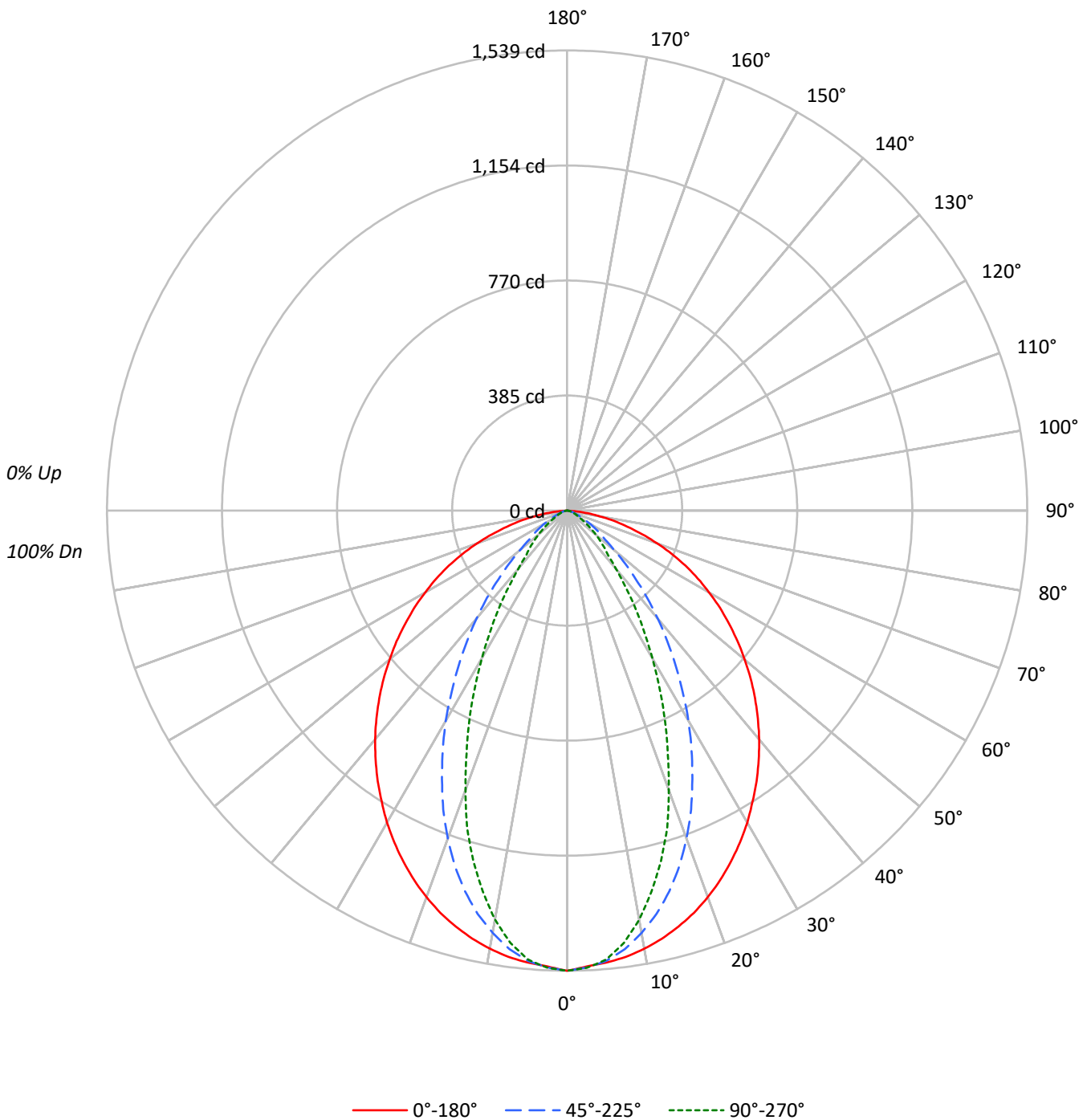
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2140.5 lumens  
Efficiency: N/A  
Efficacy: 58.5 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 36.6  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89					89			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79					79			
3	96	88	81	76	94	86	80	76	84	78	74	81	77	73	79	75	72	70					70			
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62					62			
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56					56			
6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51					51			
7	73	62	54	49	72	61	54	49	60	53	49	58	53	48	57	52	48	46					46			
8	69	57	50	45	68	57	50	45	56	49	45	54	49	44	53	48	44	42					42			
9	65	53	46	41	64	53	46	41	52	45	41	51	45	41	50	45	41	39					39			
10	62	50	43	38	60	49	43	38	48	42	38	48	42	38	47	42	38	36					36			

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

	0°	45°	90°
0°	18556	18556	18556
5°	18362	18292	18238
10°	18218	17557	17003
15°	17972	16461	15132
20°	17650	14974	12747
25°	17234	13178	10286
30°	16775	11292	7921
35°	16255	9320	5862
40°	15728	7416	3994
45°	15149	5546	3009
50°	14531	3858	2354
55°	13892	2821	1717
60°	13226	2110	1232
65°	12444	1415	959
70°	11263	1029	772
75°	9717	745	610
80°	7797	611	507
85°	4039	609	401

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15149 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.3	6.6
10°-20°	370.3	17.3
20°-30°	465.3	21.7
30°-40°	433.4	20.2
40°-50°	331.8	15.5
50°-60°	220.5	10.3
60°-70°	118.9	5.6
70°-80°	48.7	2.3
80°-90°	9.3	0.4
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°	977.9	45.7
0°-40°	1411.3	65.9
0°-60°	1963.6	91.7
0°-90°	2140.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2140.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1539	1539	1539	1539	1539	
5°	1517	1533	1511	1506	1507	144
15°	1440	1417	1319	1242	1212	406
25°	1296	1208	991	826	773	597
35°	1104	941	633	448	398	690
45°	888	656	325	191	176	685
55°	661	382	134	93	82	592
65°	436	147	50	36	34	431
75°	209	35	16	15	13	223
85°	29	4	4	4	3	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1539.1	1539.1	1539.1	1539.1	1539.1
2.5°	1526.0	1545.0	1528.9	1530.4	1530.4
5°	1517.2	1533.3	1511.4	1505.6	1507.0
7.5°	1505.6	1515.8	1479.3	1460.3	1457.4
10°	1488.1	1491.0	1434.1	1400.5	1388.9
12.5°	1466.2	1456.0	1381.6	1326.1	1304.2
15°	1439.9	1416.6	1318.8	1241.5	1212.3
17.5°	1410.7	1371.3	1247.3	1146.7	1111.7
20°	1375.7	1320.3	1167.1	1041.6	993.5
22.5°	1337.8	1266.3	1082.5	933.7	879.7
25°	1295.5	1208.0	990.6	825.7	773.2
27.5°	1251.7	1145.2	900.1	723.6	669.6
30°	1205.0	1081.0	811.1	624.4	569.0
32.5°	1154.0	1011.0	719.2	532.5	477.1
35°	1104.4	941.0	633.2	447.9	398.3
37.5°	1051.9	871.0	550.0	373.5	318.0
40°	999.3	799.5	471.2	300.5	253.8
42.5°	943.9	728.0	396.8	239.3	202.8
45°	888.5	656.5	325.3	191.1	176.5
47.5°	833.0	585.0	262.6	164.9	150.3
50°	774.7	516.4	205.7	140.1	125.5
52.5°	719.2	447.9	160.5	115.3	102.1
55°	660.9	382.2	134.2	93.4	81.7
57.5°	606.9	315.1	110.9	72.9	64.2
60°	548.5	255.3	87.5	56.9	51.1
62.5°	493.1	199.9	67.1	45.2	40.8
65°	436.2	147.3	49.6	36.5	33.6
67.5°	379.3	106.5	37.9	29.2	27.7
70°	319.5	80.2	29.2	23.3	21.9
72.5°	262.6	56.9	21.9	19.0	17.5
75°	208.6	35.0	16.0	14.6	13.1
77.5°	160.5	20.4	11.7	11.7	10.2
80°	112.3	11.7	8.8	8.8	7.3
82.5°	68.6	7.3	5.8	5.8	5.8
85°	29.2	4.4	4.4	4.4	2.9
87.5°	4.4	1.5	1.5	1.5	1.5
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	19.96	21.32	20.32	21.63	21.94	8.53	9.89	8.90	10.20	10.52
	3H	21.71	22.92	22.09	23.25	23.61	9.19	10.40	9.57	10.73	11.09
	4H	22.41	23.54	22.82	23.89	24.27	9.39	10.52	9.79	10.87	11.25
	6H	22.93	23.96	23.34	24.33	24.72	9.51	10.55	9.93	10.92	11.31
	8H	23.07	24.05	23.50	24.44	24.84	9.55	10.53	9.98	10.92	11.32
	12H	23.12	24.05	23.55	24.44	24.87	9.56	10.49	9.99	10.88	11.31
4H	2H	19.77	20.89	20.17	21.24	21.63	9.09	10.21	9.49	10.56	10.94
	3H	21.56	22.48	21.97	22.89	23.29	9.89	10.81	10.30	11.21	11.61
	4H	22.26	23.08	22.69	23.50	23.94	10.15	10.97	10.58	11.39	11.83
	6H	22.83	23.54	23.29	23.98	24.45	10.34	11.05	10.81	11.50	11.97
	8H	23.00	23.66	23.47	24.11	24.58	10.40	11.06	10.87	11.51	11.98
	12H	23.09	23.67	23.57	24.16	24.63	10.43	11.02	10.91	11.50	11.97
8H	4H	22.13	22.80	22.60	23.24	23.71	10.46	11.12	10.93	11.57	12.04
	6H	22.69	23.23	23.19	23.72	24.20	10.71	11.25	11.21	11.75	12.23
	8H	22.86	23.35	23.38	23.86	24.35	10.80	11.28	11.32	11.80	12.29
	12H	22.97	23.40	23.48	23.89	24.46	10.88	11.30	11.39	11.80	12.37
12H	4H	22.09	22.68	22.58	23.16	23.63	10.50	11.09	10.99	11.57	12.05
	6H	22.63	23.11	23.15	23.63	24.12	10.75	11.24	11.28	11.76	12.25
	8H	22.82	23.25	23.34	23.75	24.32	10.88	11.31	11.39	11.80	12.37