

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: P1055733

Luminaire Tested: S123R3DR-H1165D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055733  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1165D940-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

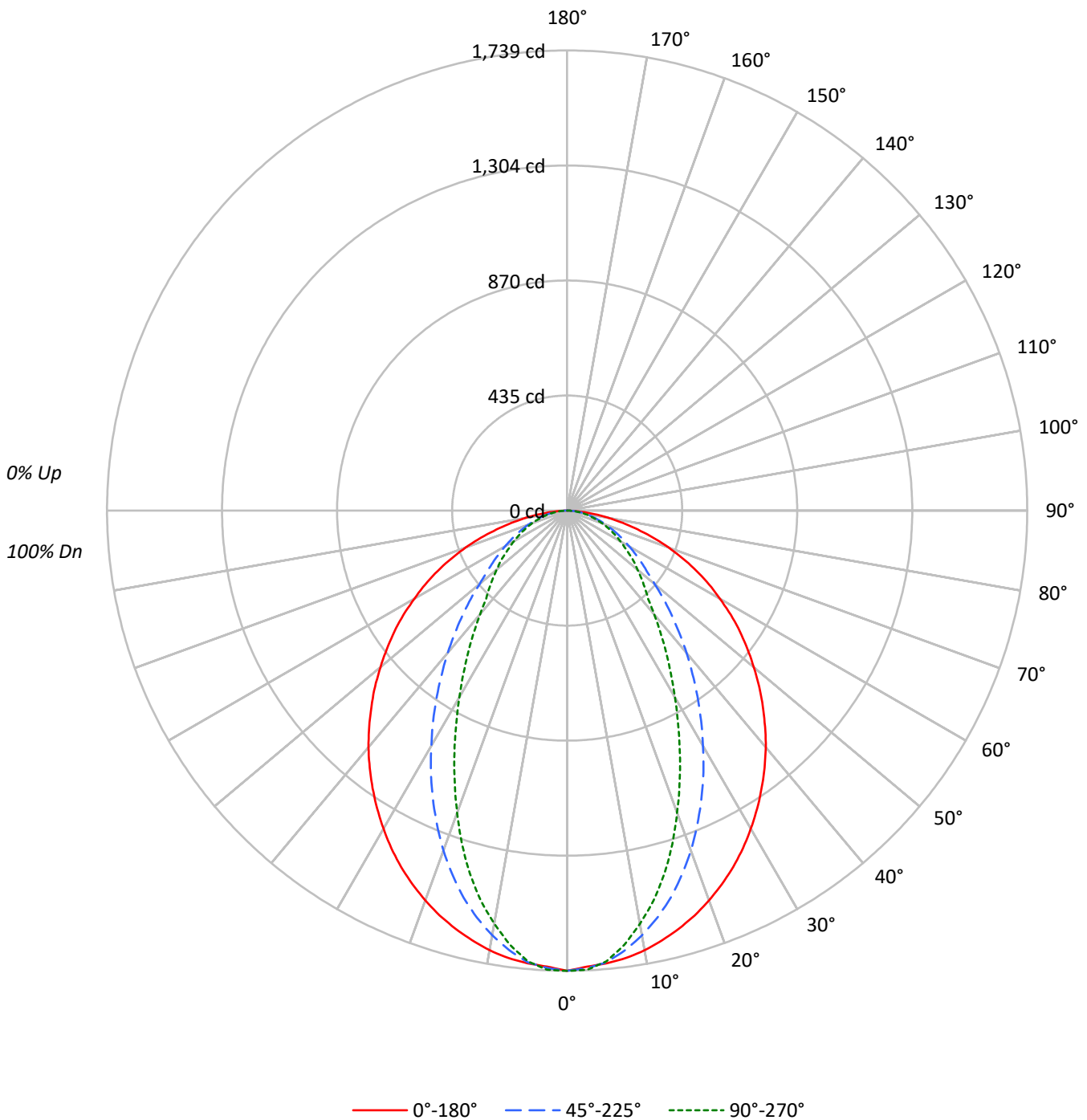
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3050.4 lumens  
Efficiency: N/A  
Efficacy: 83.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
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 (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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33

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

	0°	45°	90°
0°	20970	20970	20970
5°	20782	20735	20688
10°	20657	19955	19414
15°	20410	18900	17732
20°	20113	17541	15589
25°	19763	15973	13412
30°	19324	14289	11338
35°	18860	12637	9573
40°	18386	11036	8047
45°	17833	9516	7098
50°	17275	8101	6514
55°	16763	7218	6016
60°	16062	6525	5616
65°	15402	5974	5269
70°	14354	5503	4953
75°	12847	5091	4668
80°	11019	4693	4332
85°	7733	4316	4136

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 17833 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	161.2	5.3
10°-20°	426.6	14.0
20°-30°	561.9	18.4
30°-40°	570.3	18.7
40°-50°	495.7	16.3
50°-60°	388.4	12.7
60°-70°	263.9	8.7
70°-80°	143.0	4.7
80°-90°	39.4	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°	1149.7	37.7
0°-40°	1720.0	56.4
0°-60°	2604.2	85.4
0°-90°	3050.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3050.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1739	1739	1739	1739	1739	
5°	1717	1738	1713	1698	1709	163
15°	1635	1612	1514	1440	1421	461
25°	1486	1396	1201	1051	1008	684
35°	1281	1129	859	695	650	802
45°	1046	839	558	431	416	807
55°	798	554	343	293	286	712
65°	540	299	209	187	185	533
75°	276	138	109	102	100	294
85°	56	34	31	29	30	70
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1739.3	1739.3	1739.3	1739.3	1739.3
2.5°	1725.0	1747.1	1730.2	1731.5	1736.7
5°	1717.2	1738.0	1713.3	1697.7	1709.4
7.5°	1705.5	1721.1	1675.6	1650.8	1654.7
10°	1687.3	1692.5	1630.0	1591.0	1585.8
12.5°	1662.5	1653.4	1575.4	1518.2	1509.0
15°	1635.2	1611.8	1514.2	1440.1	1420.6
17.5°	1604.0	1565.0	1442.7	1351.6	1321.7
20°	1567.6	1512.9	1367.2	1251.5	1215.0
22.5°	1528.6	1458.3	1285.3	1148.7	1111.0
25°	1485.6	1395.9	1200.7	1051.1	1008.2
27.5°	1438.8	1333.4	1114.9	954.9	906.7
30°	1388.1	1268.4	1026.4	861.2	814.4
32.5°	1336.0	1199.4	941.9	774.0	728.5
35°	1281.4	1129.2	858.6	694.7	650.4
37.5°	1225.4	1057.6	777.9	619.2	577.6
40°	1168.2	984.8	701.2	549.0	511.3
42.5°	1107.1	911.9	627.0	482.6	454.0
45°	1045.9	839.1	558.1	430.6	416.3
47.5°	984.8	764.9	493.0	394.2	381.2
50°	921.0	693.4	431.9	360.3	347.3
52.5°	858.6	623.1	381.2	327.8	318.7
55°	797.5	554.2	343.4	292.7	286.2
57.5°	733.7	486.5	305.7	265.4	257.6
60°	666.1	421.5	270.6	236.8	232.9
62.5°	604.9	360.3	239.4	212.0	208.1
65°	539.9	299.2	209.4	187.3	184.7
67.5°	473.5	248.5	182.1	163.9	162.6
70°	407.2	209.4	156.1	141.8	140.5
72.5°	342.1	173.0	131.4	122.3	119.7
75°	275.8	137.9	109.3	101.5	100.2
77.5°	215.9	106.7	87.2	82.0	80.7
80°	158.7	79.4	67.6	63.7	62.4
82.5°	104.1	54.6	48.1	45.5	45.5
85°	55.9	33.8	31.2	28.6	29.9
87.5°	19.5	14.3	14.3	13.0	14.3
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	21.13	22.62	21.50	22.94	23.25	16.28	17.77	16.65	18.09	18.40
	3H	23.02	24.36	23.40	24.68	25.05	17.91	19.25	18.29	19.57	19.94
	4H	23.77	25.03	24.17	25.38	25.76	18.54	19.80	18.94	20.15	20.53
	6H	24.34	25.50	24.75	25.86	26.26	19.03	20.19	19.45	20.56	20.95
	8H	24.51	25.62	24.94	26.01	26.41	19.20	20.31	19.63	20.70	21.10
	12H	24.61	25.66	25.04	26.05	26.48	19.33	20.39	19.76	20.77	21.20
4H	2H	21.18	22.43	21.58	22.78	23.16	17.01	18.26	17.41	18.61	18.99
	3H	23.19	24.24	23.60	24.64	25.04	18.83	19.87	19.24	20.27	20.67
	4H	24.01	24.95	24.44	25.37	25.81	19.58	20.52	20.01	20.93	21.37
	6H	24.69	25.51	25.15	25.95	26.41	20.18	21.00	20.64	21.45	21.91
	8H	24.92	25.69	25.39	26.13	26.60	20.40	21.16	20.86	21.61	22.07
	12H	25.08	25.76	25.56	26.24	26.71	20.57	21.25	21.05	21.73	22.20
8H	4H	24.04	24.80	24.50	25.24	25.71	19.96	20.72	20.42	21.17	21.63
	6H	24.76	25.40	25.26	25.89	26.36	20.69	21.32	21.18	21.81	22.29
	8H	25.03	25.60	25.55	26.11	26.60	20.97	21.54	21.49	22.05	22.54
	12H	25.24	25.74	25.75	26.23	26.80	21.22	21.72	21.73	22.21	22.78
12H	4H	24.02	24.70	24.50	25.18	25.65	20.01	20.70	20.50	21.17	21.65
	6H	24.75	25.32	25.26	25.83	26.31	20.77	21.34	21.28	21.85	22.33
	8H	25.05	25.55	25.56	26.05	26.61	21.12	21.62	21.63	22.11	22.67