

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055722

Luminaire Tested: S123R3DR-H1165D927-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055722  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DR-H1165D927-X4F0-XX-UDD-FLL-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

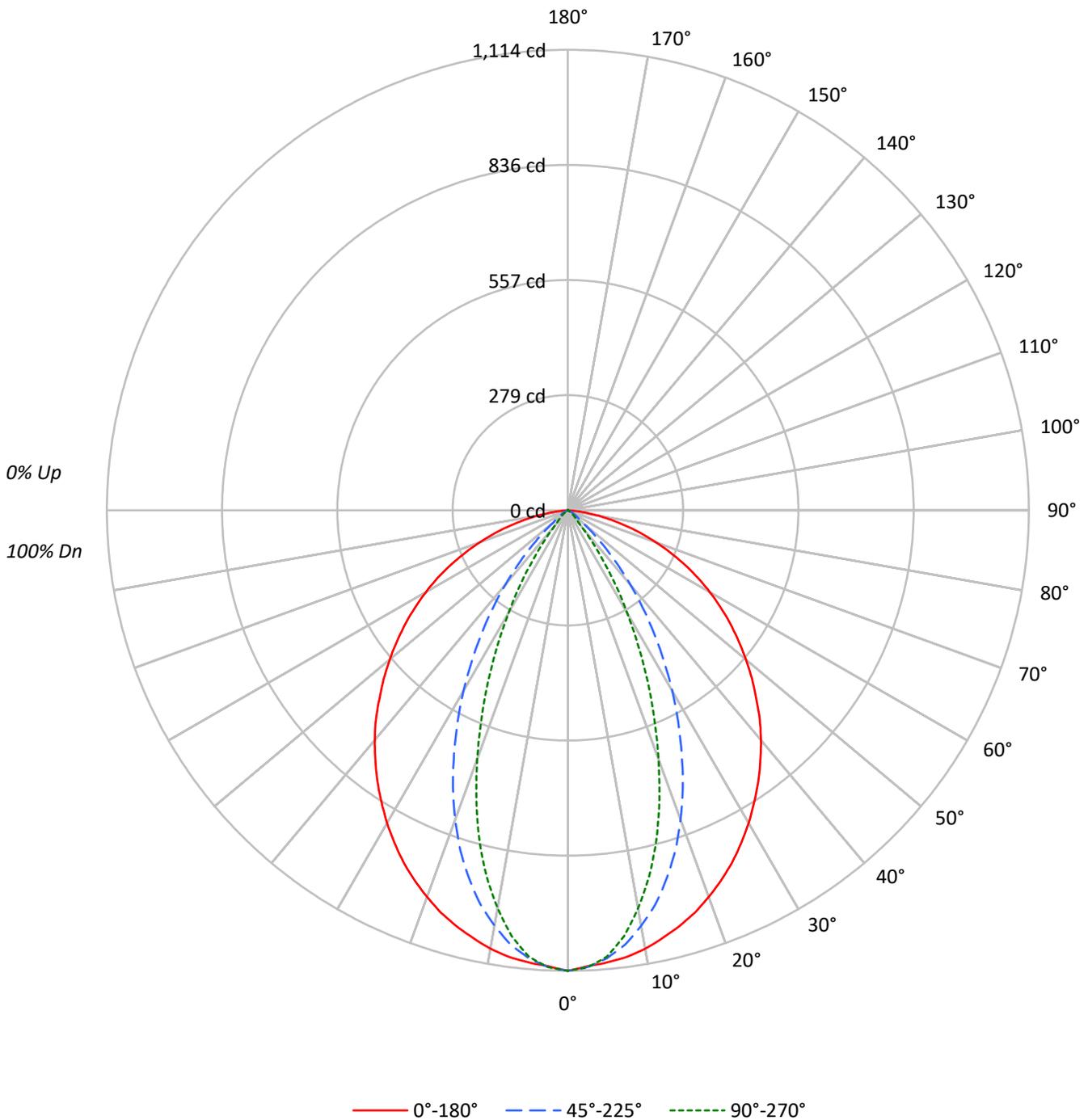
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1304.0 lumens  
Efficiency: N/A  
Efficacy: 35.6 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90					90			
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54					54			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

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

	0°	45°	90°
0°	13432	13432	13432
5°	13287	13161	13119
10°	13186	12493	11969
15°	12997	11511	10314
20°	12767	10217	8215
25°	12499	8656	6057
30°	12163	7015	3975
35°	11805	5341	2177
40°	11423	3692	746
45°	10975	2148	433
50°	10535	846	261
55°	10081	534	122
60°	9558	335	55
65°	8901	165	34
70°	7984	81	42
75°	6782	56	56
80°	5055	83	0
85°	1923	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10975 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.1	7.8
10°-20°	259.2	19.9
20°-30°	309.2	23.7
30°-40°	262.3	20.1
40°-50°	178.3	13.7
50°-60°	110.5	8.5
60°-70°	56.0	4.3
70°-80°	22.8	1.8
80°-90°	3.5	0.3
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°	670.6	51.4
0°-40°	932.9	71.5
0°-60°	1221.6	93.7
0°-90°	1304.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1304.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1114	1114	1114	1114	1114	
5°	1098	1108	1088	1079	1084	104
15°	1041	1015	922	849	826	293
25°	940	852	651	503	455	432
35°	802	644	363	195	148	501
45°	644	422	126	31	25	497
55°	480	213	25	9	6	428
65°	312	52	6	1	1	308
75°	146	9	1	1	1	155
85°	14	0	0	1	0	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1114.1	<i>1114.1</i>	1114.1	1114.1	1114.1
2.5°	<i>1103.7</i>	<i>1118.7</i>	<i>1106.0</i>	<i>1104.8</i>	<i>1106.0</i>
5°	1097.9	<i>1108.3</i>	1087.5	1079.4	1084.0
7.5°	1089.8	<i>1094.4</i>	1059.8	1039.0	1039.0
10°	1077.1	<i>1073.6</i>	1020.5	985.8	977.7
12.5°	1059.8	<i>1045.9</i>	976.6	922.2	907.2
15°	1041.3	<i>1014.7</i>	922.2	849.4	826.3
17.5°	1020.5	<i>980.0</i>	863.3	768.5	735.0
20°	995.1	<i>940.7</i>	796.3	680.7	640.3
22.5°	968.5	<i>898.0</i>	725.8	590.6	545.5
25°	939.6	<i>851.7</i>	650.7	502.7	455.3
27.5°	907.2	<i>803.2</i>	576.7	418.4	366.4
30°	873.7	<i>752.4</i>	503.9	337.5	285.5
32.5°	837.9	<i>699.2</i>	431.1	263.5	215.0
35°	802.1	<i>643.7</i>	362.9	195.3	147.9
37.5°	763.9	<i>588.2</i>	297.0	135.2	93.6
40°	725.8	<i>533.9</i>	234.6	85.5	47.4
42.5°	686.5	<i>477.3</i>	178.0	42.8	32.4
45°	643.7	<i>421.8</i>	126.0	31.2	25.4
47.5°	603.3	<i>368.7</i>	83.2	25.4	19.6
50°	561.7	<i>315.5</i>	45.1	18.5	13.9
52.5°	520.1	<i>264.7</i>	32.4	13.9	9.2
55°	479.6	<i>212.6</i>	25.4	9.2	5.8
57.5°	438.0	<i>167.6</i>	19.6	5.8	3.5
60°	396.4	<i>123.7</i>	13.9	3.5	2.3
62.5°	354.8	<i>85.5</i>	9.2	2.3	1.2
65°	312.0	<i>52.0</i>	5.8	1.2	1.2
67.5°	268.1	<i>35.8</i>	3.5	1.2	1.2
70°	226.5	<i>25.4</i>	2.3	1.2	1.2
72.5°	184.9	<i>16.2</i>	1.2	1.2	0.0
75°	145.6	<i>9.2</i>	1.2	1.2	1.2
77.5°	107.5	<i>3.5</i>	1.2	1.2	0.0
80°	72.8	<i>1.2</i>	1.2	1.2	0.0
82.5°	40.4	<i>0.0</i>	1.2	1.2	0.0
85°	13.9	<i>0.0</i>	0.0	1.2	0.0
87.5°	0.0	<i>0.0</i>	0.0	1.2	0.0
90°	0.0	<i>0.0</i>	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	18.07	19.35	18.44	19.67	19.98	0.00	0.00	0.00	0.00	0.00
	3H	20.02	21.15	20.40	21.48	21.85	0.00	0.00	0.00	0.00	0.00
	4H	20.84	21.90	21.25	22.25	22.64	0.00	0.00	0.00	0.00	0.00
	6H	21.40	22.37	21.81	22.74	23.13	0.00	0.00	0.00	0.00	0.00
	8H	21.52	22.44	21.96	22.83	23.24	0.00	0.00	0.00	0.00	0.00
	12H	21.55	22.42	21.98	22.81	23.24	0.00	0.00	0.00	0.00	0.00
4H	2H	17.84	18.89	18.24	19.24	19.63	0.00	0.00	0.00	0.00	0.00
	3H	19.79	20.65	20.20	21.06	21.46	0.00	0.00	0.00	0.00	0.00
	4H	20.60	21.37	21.04	21.79	22.24	0.00	0.00	0.00	0.00	0.00
	6H	21.20	21.87	21.67	22.31	22.78	0.00	0.00	0.00	0.00	0.00
	8H	21.36	21.97	21.83	22.42	22.89	0.00	0.00	0.00	0.00	0.00
	12H	21.40	21.95	21.89	22.43	22.91	0.00	0.00	0.00	0.00	0.00
8H	4H	20.46	21.08	20.93	21.53	22.00	0.00	0.00	0.00	0.00	0.00
	6H	21.04	21.54	21.55	22.04	22.52	0.00	0.00	0.00	0.00	0.00
	8H	21.19	21.64	21.72	22.16	22.65	0.00	0.00	0.00	0.00	0.00
	12H	21.25	21.64	21.77	22.14	22.71	0.00	0.00	0.00	0.00	0.00
12H	4H	20.41	20.96	20.90	21.44	21.91	0.00	0.00	0.00	0.00	0.00
	6H	20.98	21.43	21.50	21.95	22.44	0.00	0.00	0.00	0.00	0.00
	8H	21.15	21.54	21.66	22.04	22.61	0.00	0.00	0.00	0.00	0.00