

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: P1055713

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

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055713  
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-H1165D835-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3500K CCT, 80 CRI LEDS  
Ballast/Driver: -

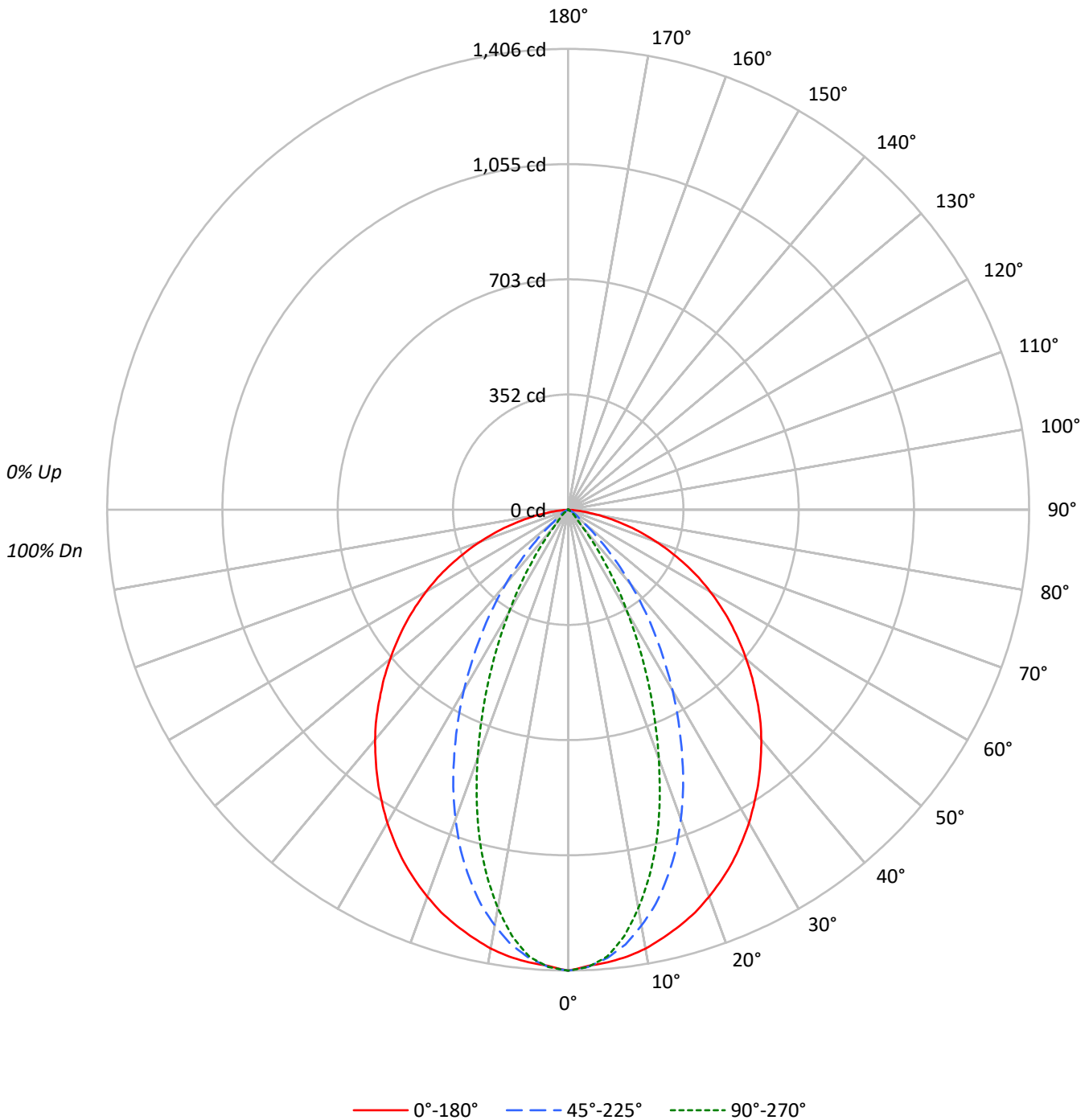
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1646.0 lumens  
Efficiency: N/A  
Efficacy: 45.0 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 (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	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	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

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

	0°	45°	90°
0°	16956	16956	16956
5°	16773	16614	16561
10°	16646	15771	15110
15°	16406	14531	13020
20°	16116	12897	10369
25°	15778	10926	7646
30°	15354	8855	5016
35°	14902	6742	2748
40°	14420	4662	941
45°	13855	2711	547
50°	13298	1067	328
55°	12725	675	153
60°	12066	422	70
65°	11237	208	43
70°	10078	102	53
75°	8562	70	70
80°	6381	104	0
85°	2421	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 13855 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.9	7.8
10°-20°	327.2	19.9
20°-30°	390.3	23.7
30°-40°	331.1	20.1
40°-50°	225.0	13.7
50°-60°	139.5	8.5
60°-70°	70.7	4.3
70°-80°	28.8	1.8
80°-90°	4.5	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°	846.5	51.4
0°-40°	1177.6	71.5
0°-60°	1542.1	93.7
0°-90°	1646.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1646.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1406	1406	1406	1406	1406	
5°	1386	1399	1373	1363	1368	132
15°	1314	1281	1164	1072	1043	370
25°	1186	1075	821	635	575	546
35°	1012	813	458	247	187	633
45°	813	532	159	39	32	628
55°	605	268	32	12	7	541
65°	394	66	7	2	2	389
75°	184	12	2	2	2	195
85°	18	0	0	2	0	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1406.4	1406.4	1406.4	1406.4	1406.4
2.5°	1393.2	1412.2	1396.1	1394.7	1396.1
5°	1385.9	1399.1	1372.8	1362.6	1368.4
7.5°	1375.7	1381.6	1337.8	1311.5	1311.5
10°	1359.7	1355.3	1288.2	1244.4	1234.2
12.5°	1337.8	1320.3	1232.8	1164.2	1145.2
15°	1314.4	1280.9	1164.2	1072.3	1043.1
17.5°	1288.2	1237.1	1089.8	970.2	927.8
20°	1256.1	1187.5	1005.2	859.3	808.2
22.5°	1222.5	1133.5	916.2	745.5	688.6
25°	1186.1	1075.2	821.3	634.6	574.8
27.5°	1145.2	1013.9	728.0	528.1	462.5
30°	1102.9	949.7	636.1	426.0	360.3
32.5°	1057.7	882.6	544.2	332.6	271.4
35°	1012.5	812.6	458.1	246.6	186.7
37.5°	964.3	742.6	374.9	170.7	118.2
40°	916.2	674.0	296.2	108.0	59.8
42.5°	866.6	602.5	224.7	54.0	40.8
45°	812.6	532.5	159.0	39.4	32.1
47.5°	761.5	465.4	105.0	32.1	24.8
50°	709.0	398.3	56.9	23.3	17.5
52.5°	656.5	334.1	40.8	17.5	11.7
55°	605.4	268.4	32.1	11.7	7.3
57.5°	552.9	211.5	24.8	7.3	4.4
60°	500.4	156.1	17.5	4.4	2.9
62.5°	447.9	108.0	11.7	2.9	1.5
65°	393.9	65.6	7.3	1.5	1.5
67.5°	338.5	45.2	4.4	1.5	1.5
70°	285.9	32.1	2.9	1.5	1.5
72.5°	233.4	20.4	1.5	1.5	0.0
75°	183.8	11.7	1.5	1.5	1.5
77.5°	135.7	4.4	1.5	1.5	0.0
80°	91.9	1.5	1.5	1.5	0.0
82.5°	51.1	0.0	1.5	1.5	0.0
85°	17.5	0.0	0.0	1.5	0.0
87.5°	0.0	0.0	0.0	1.5	0.0
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	18.88	20.16	19.25	20.47	20.79	0.00	0.00	0.00	0.00	0.00
	3H	20.83	21.96	21.21	22.29	22.66	0.00	0.00	0.00	0.00	0.00
	4H	21.65	22.71	22.06	23.06	23.44	0.00	0.00	0.00	0.00	0.00
	6H	22.21	23.18	22.62	23.55	23.94	0.00	0.00	0.00	0.00	0.00
	8H	22.33	23.25	22.77	23.64	24.05	0.00	0.00	0.00	0.00	0.00
	12H	22.36	23.23	22.79	23.62	24.05	0.00	0.00	0.00	0.00	0.00
4H	2H	18.64	19.70	19.05	20.05	20.44	0.00	0.00	0.00	0.00	0.00
	3H	20.60	21.46	21.01	21.86	22.27	0.00	0.00	0.00	0.00	0.00
	4H	21.41	22.18	21.85	22.60	23.05	0.00	0.00	0.00	0.00	0.00
	6H	22.01	22.68	22.48	23.12	23.59	0.00	0.00	0.00	0.00	0.00
	8H	22.17	22.78	22.64	23.23	23.70	0.00	0.00	0.00	0.00	0.00
	12H	22.21	22.76	22.70	23.24	23.72	0.00	0.00	0.00	0.00	0.00
8H	4H	21.27	21.89	21.74	22.33	22.81	0.00	0.00	0.00	0.00	0.00
	6H	21.85	22.35	22.36	22.85	23.33	0.00	0.00	0.00	0.00	0.00
	8H	22.00	22.45	22.53	22.97	23.46	0.00	0.00	0.00	0.00	0.00
	12H	22.06	22.45	22.57	22.95	23.52	0.00	0.00	0.00	0.00	0.00
12H	4H	21.22	21.77	21.71	22.25	22.72	0.00	0.00	0.00	0.00	0.00
	6H	21.79	22.24	22.31	22.75	23.25	0.00	0.00	0.00	0.00	0.00
	8H	21.96	22.35	22.47	22.85	23.42	0.00	0.00	0.00	0.00	0.15