

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: P1055711

Luminaire Tested: S123R3DR-H1165D830-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055711
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-H1165D830-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

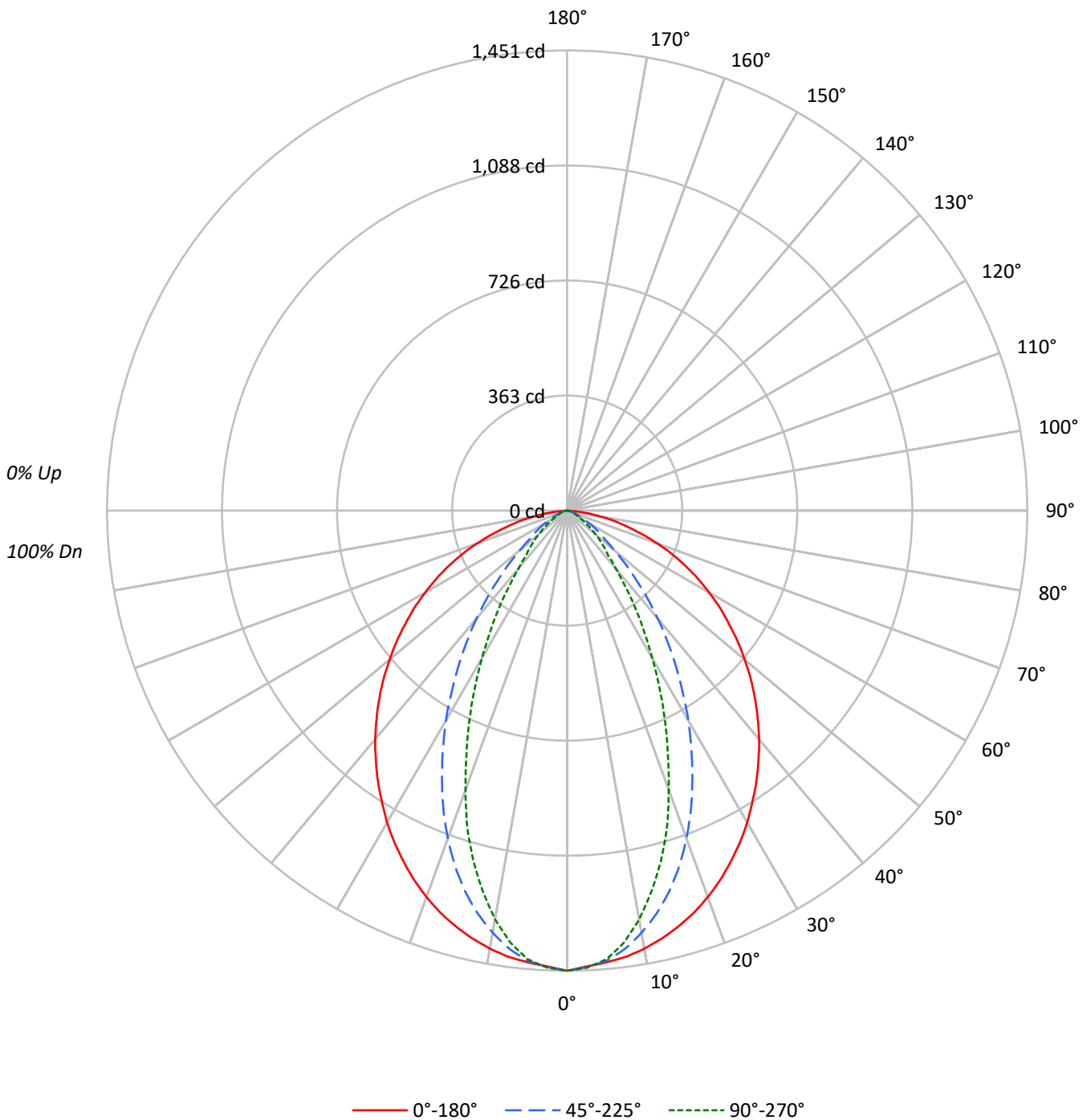
Lumens per Lamp: N/A
Luminaire Lumens: 2017.5 lumens
Efficiency: N/A
Efficacy: 55.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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°	17490	17490	17490
5°	17308	17241	17190
10°	17171	16548	16027
15°	16940	15516	14263
20°	16637	14113	12014
25°	16243	12421	9695
30°	15812	10643	7466
35°	15320	8784	5525
40°	14824	6989	3766
45°	14278	5228	2837
50°	13696	3637	2219
55°	13093	2659	1619
60°	12466	1989	1160
65°	11728	1335	901
70°	10614	969	726
75°	9158	703	578
80°	7353	576	479
85°	3804	567	387

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14278 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.1	6.6
10°-20°	349.1	17.3
20°-30°	438.6	21.7
30°-40°	408.5	20.2
40°-50°	312.7	15.5
50°-60°	207.8	10.3
60°-70°	112.0	5.6
70°-80°	45.9	2.3
80°-90°	8.8	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°	921.7	45.7
0°-40°	1330.2	65.9
0°-60°	1850.7	91.7
0°-90°	2017.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2017.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1451	1451	1451	1451	1451	
5°	1430	1445	1425	1419	1420	136
15°	1357	1335	1243	1170	1143	382
25°	1221	1138	934	778	729	562
35°	1041	887	597	422	375	651
45°	837	619	307	180	166	646
55°	623	360	126	88	77	558
65°	411	139	47	34	32	406
75°	197	33	15	14	12	211
85°	28	4	4	4	3	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1450.7	1450.7	1450.7	1450.7	1450.7
2.5°	1438.3	1456.2	1441.1	1442.4	1442.4
5°	1430.1	1445.2	1424.6	1419.1	1420.4
7.5°	1419.1	1428.7	1394.3	1376.4	1373.7
10°	1402.6	1405.3	1351.7	1320.1	1309.1
12.5°	1381.9	1372.3	1302.2	1249.9	1229.3
15°	1357.2	1335.2	1243.1	1170.2	1142.7
17.5°	1329.7	1292.6	1175.7	1080.8	1047.8
20°	1296.7	1244.4	1100.0	981.8	936.4
22.5°	1260.9	1193.5	1020.3	880.0	829.2
25°	1221.0	1138.5	933.7	778.3	728.8
27.5°	1179.8	1079.4	848.4	682.0	631.2
30°	1135.8	1018.9	764.5	588.5	536.3
32.5°	1087.7	952.9	677.9	501.9	449.6
35°	1040.9	886.9	596.8	422.1	375.4
37.5°	991.4	820.9	518.4	352.0	299.8
40°	941.9	753.5	444.1	283.3	239.3
42.5°	889.7	686.2	374.0	225.5	191.1
45°	837.4	618.8	306.6	180.1	166.4
47.5°	785.2	551.4	247.5	155.4	141.6
50°	730.2	486.8	193.9	132.0	118.3
52.5°	677.9	422.1	151.3	108.6	96.3
55°	622.9	360.3	126.5	88.0	77.0
57.5°	572.0	297.0	104.5	68.8	60.5
60°	517.0	240.6	82.5	53.6	48.1
62.5°	464.8	188.4	63.3	42.6	38.5
65°	411.1	138.9	46.8	34.4	31.6
67.5°	357.5	100.4	35.8	27.5	26.1
70°	301.1	75.6	27.5	22.0	20.6
72.5°	247.5	53.6	20.6	17.9	16.5
75°	196.6	33.0	15.1	13.8	12.4
77.5°	151.3	19.3	11.0	11.0	9.6
80°	105.9	11.0	8.3	8.3	6.9
82.5°	64.6	6.9	5.5	5.5	5.5
85°	27.5	4.1	4.1	4.1	2.8
87.5°	4.1	1.4	1.4	1.4	1.4
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	19.75	21.11	20.12	21.42	21.74	8.33	9.69	8.70	10.00	10.32
	3H	21.51	22.71	21.89	23.04	23.41	8.99	10.20	9.37	10.53	10.89
	4H	22.21	23.33	22.61	23.68	24.06	9.19	10.32	9.59	10.67	11.05
	6H	22.72	23.75	23.14	24.12	24.52	9.31	10.35	9.73	10.72	11.11
	8H	22.86	23.84	23.29	24.23	24.64	9.35	10.33	9.78	10.72	11.12
	12H	22.91	23.85	23.34	24.23	24.66	9.36	10.29	9.79	10.68	11.11
4H	2H	19.56	20.69	19.97	21.04	21.42	8.89	10.01	9.29	10.36	10.75
	3H	21.36	22.28	21.77	22.68	23.08	9.69	10.61	10.10	11.01	11.41
	4H	22.05	22.87	22.48	23.29	23.73	9.95	10.77	10.38	11.19	11.63
	6H	22.62	23.33	23.08	23.78	24.24	10.14	10.85	10.61	11.30	11.77
	8H	22.80	23.46	23.26	23.91	24.38	10.20	10.86	10.67	11.31	11.78
	12H	22.88	23.47	23.37	23.95	24.42	10.23	10.82	10.72	11.30	11.77
8H	4H	21.93	22.59	22.39	23.04	23.51	10.26	10.92	10.73	11.37	11.84
	6H	22.48	23.02	22.98	23.52	24.00	10.51	11.05	11.01	11.54	12.03
	8H	22.66	23.14	23.18	23.66	24.15	10.60	11.08	11.12	11.60	12.09
	12H	22.76	23.19	23.28	23.68	24.26	10.68	11.10	11.19	11.60	12.17
12H	4H	21.88	22.47	22.37	22.95	23.43	10.30	10.89	10.79	11.37	11.85
	6H	22.42	22.91	22.94	23.42	23.92	10.55	11.04	11.07	11.55	12.05
	8H	22.62	23.05	23.13	23.54	24.11	10.68	11.11	11.19	11.60	12.17