

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: P1055693

Luminaire Tested: S123R3DR-H1000D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055693
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-H1000D850-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

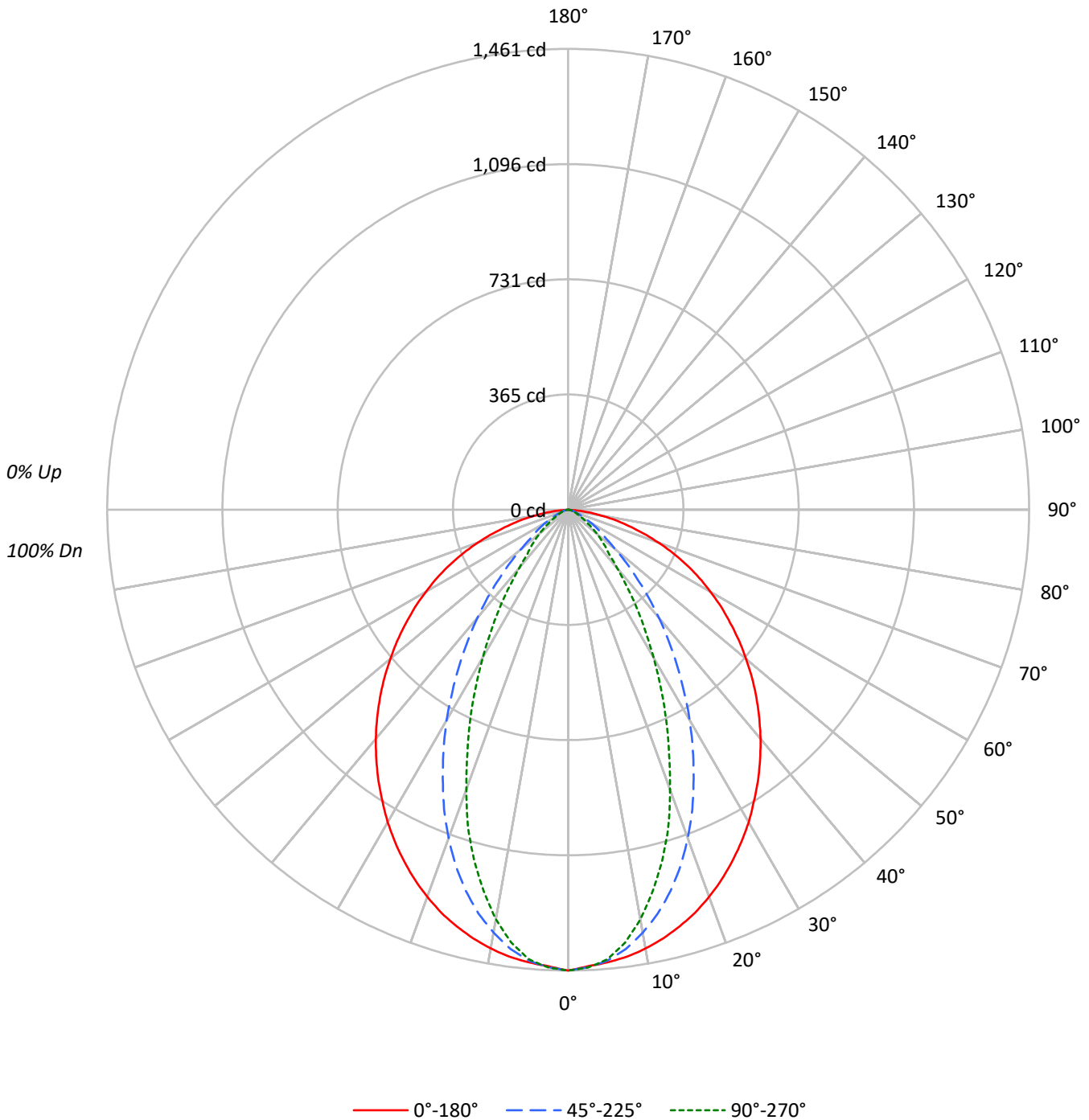
Lumens per Lamp: N/A
Luminaire Lumens: 2032.0 lumens
Efficiency: N/A
Efficacy: 65.8 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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°	17616	17616	17616
5°	17432	17365	17315
10°	17295	16667	16142
15°	17062	15627	14365
20°	16756	14216	12101
25°	16361	12510	9764
30°	15926	10720	7519
35°	15431	8847	5565
40°	14931	7040	3793
45°	14380	5265	2858
50°	13793	3663	2234
55°	13188	2678	1631
60°	12556	2004	1169
65°	11813	1344	910
70°	10691	976	733
75°	9228	708	582
80°	7401	576	479
85°	3832	581	387

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14380 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.1	6.6
10°-20°	351.6	17.3
20°-30°	441.7	21.7
30°-40°	411.4	20.2
40°-50°	314.9	15.5
50°-60°	209.3	10.3
60°-70°	112.8	5.6
70°-80°	46.2	2.3
80°-90°	8.9	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°	928.4	45.7
0°-40°	1339.8	65.9
0°-60°	1864.1	91.7
0°-90°	2032.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2032.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1461	1461	1461	1461	1461	
5°	1440	1456	1435	1429	1431	137
15°	1367	1345	1252	1179	1151	385
25°	1230	1147	940	784	734	566
35°	1048	893	601	425	378	655
45°	843	623	309	181	168	651
55°	627	363	127	89	78	562
65°	414	140	47	35	32	409
75°	198	33	15	14	12	212
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°	1461.1	1461.1	1461.1	1461.1	1461.1
2.5°	1448.7	1466.7	1451.4	1452.8	1452.8
5°	1440.4	1455.6	1434.8	1429.3	1430.7
7.5°	1429.3	1439.0	1404.4	1386.4	1383.6
10°	1412.7	1415.4	1361.4	1329.6	1318.5
12.5°	1391.9	1382.2	1311.6	1258.9	1238.2
15°	1367.0	1344.8	1252.0	1178.6	1150.9
17.5°	1339.3	1301.9	1184.1	1088.6	1055.3
20°	1306.0	1253.4	1108.0	988.9	943.2
22.5°	1270.0	1202.2	1027.6	886.4	835.1
25°	1229.9	1146.8	940.4	783.9	734.0
27.5°	1188.3	1087.2	854.5	686.9	635.7
30°	1144.0	1026.3	770.0	592.8	540.1
32.5°	1095.5	959.8	682.8	505.5	452.9
35°	1048.4	893.3	601.1	425.2	378.1
37.5°	998.6	826.8	522.1	354.6	301.9
40°	948.7	759.0	447.3	285.3	241.0
42.5°	896.1	691.1	376.7	227.1	192.5
45°	843.4	623.2	308.8	181.4	167.6
47.5°	790.8	555.4	249.3	156.5	142.7
50°	735.4	490.3	195.3	133.0	119.1
52.5°	682.8	425.2	152.3	109.4	96.9
55°	627.4	362.9	127.4	88.6	77.6
57.5°	576.1	299.2	105.3	69.2	60.9
60°	520.7	242.4	83.1	54.0	48.5
62.5°	468.1	189.7	63.7	42.9	38.8
65°	414.1	139.9	47.1	34.6	31.9
67.5°	360.1	101.1	36.0	27.7	26.3
70°	303.3	76.2	27.7	22.2	20.8
72.5°	249.3	54.0	20.8	18.0	16.6
75°	198.1	33.2	15.2	13.8	12.5
77.5°	152.3	19.4	11.1	11.1	9.7
80°	106.6	11.1	8.3	8.3	6.9
82.5°	65.1	6.9	5.5	5.5	5.5
85°	27.7	4.2	4.2	4.2	2.8
87.5°	4.2	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	19.78	21.14	20.15	21.45	21.76	8.35	9.71	8.71	10.02	10.33
	3H	21.53	22.74	21.91	23.07	23.43	9.01	10.22	9.39	10.55	10.91
	4H	22.23	23.36	22.64	23.71	24.09	9.21	10.33	9.61	10.68	11.07
	6H	22.75	23.78	23.16	24.15	24.54	9.33	10.37	9.75	10.73	11.13
	8H	22.89	23.87	23.32	24.26	24.66	9.37	10.34	9.79	10.74	11.14
	12H	22.94	23.87	23.37	24.26	24.69	9.38	10.31	9.81	10.69	11.13
4H	2H	19.59	20.71	19.99	21.06	21.45	8.91	10.03	9.31	10.38	10.76
	3H	21.38	22.30	21.79	22.71	23.11	9.71	10.63	10.12	11.03	11.43
	4H	22.08	22.90	22.51	23.32	23.76	9.96	10.79	10.40	11.21	11.65
	6H	22.65	23.36	23.11	23.80	24.27	10.16	10.87	10.62	11.32	11.78
	8H	22.82	23.48	23.29	23.93	24.40	10.21	10.88	10.68	11.32	11.79
	12H	22.91	23.49	23.39	23.98	24.45	10.25	10.83	10.73	11.32	11.79
8H	4H	21.95	22.62	22.42	23.06	23.53	10.28	10.94	10.75	11.39	11.86
	6H	22.51	23.05	23.01	23.54	24.02	10.53	11.07	11.03	11.56	12.04
	8H	22.68	23.17	23.20	23.68	24.17	10.61	11.10	11.13	11.61	12.10
	12H	22.79	23.22	23.30	23.71	24.28	10.69	11.12	11.21	11.62	12.19
12H	4H	21.91	22.50	22.40	22.98	23.45	10.32	10.91	10.81	11.39	11.87
	6H	22.45	22.93	22.97	23.45	23.94	10.57	11.06	11.09	11.57	12.06
	8H	22.64	23.07	23.16	23.57	24.14	10.70	11.12	11.21	11.62	12.19