

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: P1055683

Luminaire Tested: S123R3DR-H1000D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055683
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-H1000D830-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

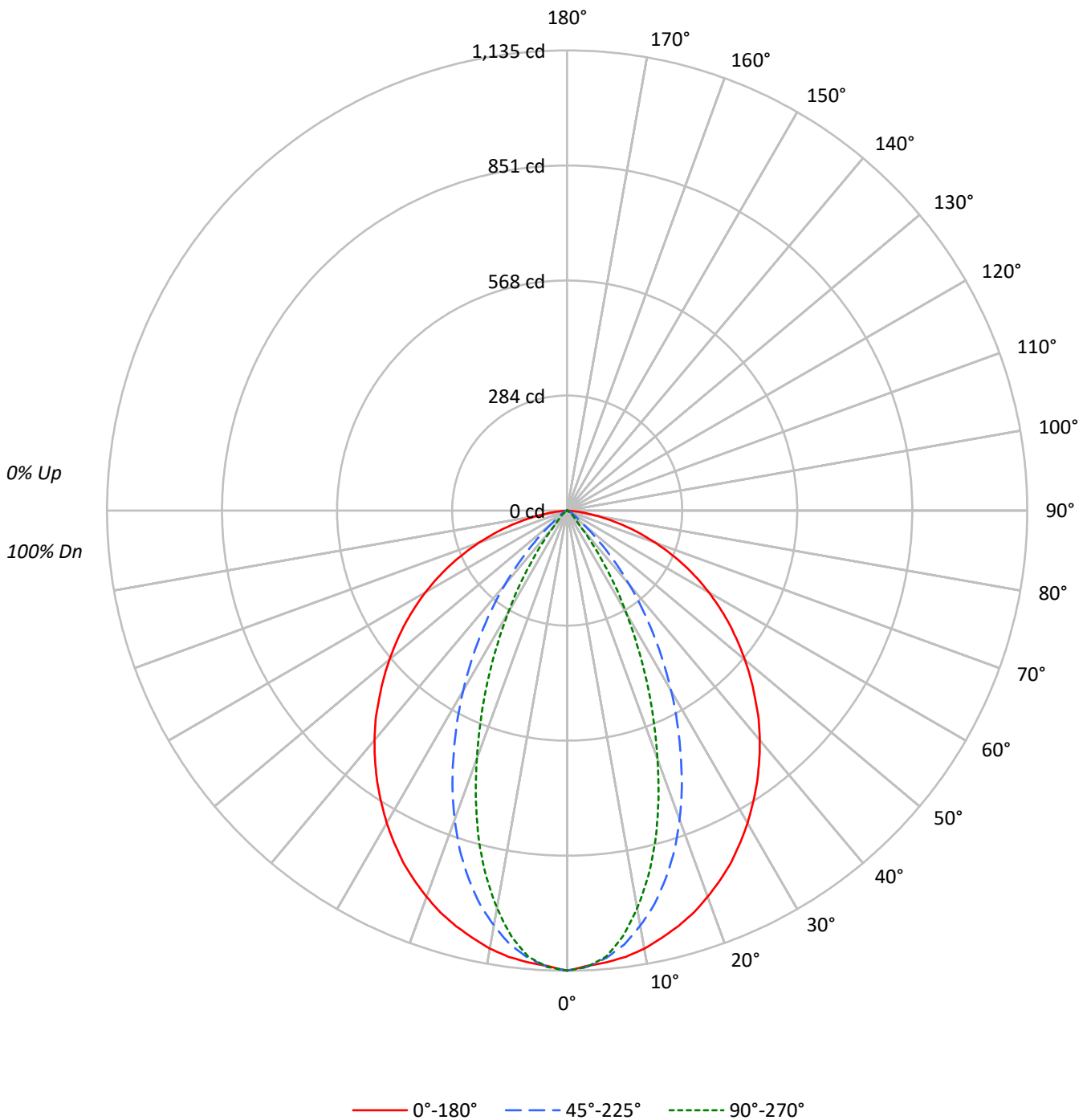
Lumens per Lamp: N/A
Luminaire Lumens: 1328.1 lumens
Efficiency: N/A
Efficacy: 43.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	13680	13680	13680
5°	13533	13405	13362
10°	13430	12725	12191
15°	13238	11724	10505
20°	13003	10405	8367
25°	12731	8816	6170
30°	12389	7145	4047
35°	12023	5440	2218
40°	11634	3760	760
45°	11178	2188	442
50°	10731	861	264
55°	10268	544	124
60°	9734	340	58
65°	9066	168	34
70°	8132	85	42
75°	6908	56	56
80°	5152	83	0
85°	1950	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 11178 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.0	7.8
10°-20°	264.0	19.9
20°-30°	314.9	23.7
30°-40°	267.1	20.1
40°-50°	181.6	13.7
50°-60°	112.5	8.5
60°-70°	57.0	4.3
70°-80°	23.3	1.8
80°-90°	3.6	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°	683.0	51.4
0°-40°	950.1	71.5
0°-60°	1244.2	93.7
0°-90°	1328.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1328.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1135	1135	1135	1135	1135	
5°	1118	1129	1108	1099	1104	106
15°	1061	1034	939	865	842	299
25°	957	868	663	512	464	440
35°	817	656	370	199	151	511
45°	656	430	128	32	26	506
55°	488	217	26	9	6	436
65°	318	53	6	1	1	314
75°	148	9	1	1	1	158
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°	1134.7	1134.7	1134.7	1134.7	1134.7
2.5°	1124.1	1139.4	1126.5	1125.3	1126.5
5°	1118.2	1128.8	1107.6	1099.4	1104.1
7.5°	1110.0	1114.7	1079.4	1058.2	1058.2
10°	1097.0	1093.5	1039.4	1004.1	995.8
12.5°	1079.4	1065.3	994.6	939.3	924.0
15°	1060.6	1033.5	939.3	865.2	841.6
17.5°	1039.4	998.2	879.3	782.8	748.6
20°	1013.5	958.1	811.0	693.3	652.1
22.5°	986.4	914.6	739.2	601.5	555.6
25°	957.0	867.5	662.7	512.0	463.8
27.5°	924.0	818.1	587.4	426.1	373.1
30°	889.9	766.3	513.2	343.7	290.7
32.5°	853.4	712.1	439.1	268.4	218.9
35°	816.9	655.6	369.6	198.9	150.7
37.5°	778.1	599.1	302.5	137.7	95.3
40°	739.2	543.8	238.9	87.1	48.3
42.5°	699.2	486.1	181.3	43.6	33.0
45°	655.6	429.6	128.3	31.8	25.9
47.5°	614.4	375.5	84.8	25.9	20.0
50°	572.1	321.3	45.9	18.8	14.1
52.5°	529.7	269.6	33.0	14.1	9.4
55°	488.5	216.6	25.9	9.4	5.9
57.5°	446.1	170.7	20.0	5.9	3.5
60°	403.7	125.9	14.1	3.5	2.4
62.5°	361.4	87.1	9.4	2.4	1.2
65°	317.8	53.0	5.9	1.2	1.2
67.5°	273.1	36.5	3.5	1.2	1.2
70°	230.7	25.9	2.4	1.2	1.2
72.5°	188.3	16.5	1.2	1.2	0.0
75°	148.3	9.4	1.2	1.2	1.2
77.5°	109.5	3.5	1.2	1.2	0.0
80°	74.2	1.2	1.2	1.2	0.0
82.5°	41.2	0.0	1.2	1.2	0.0
85°	14.1	0.0	0.0	1.2	0.0
87.5°	0.0	0.0	0.0	1.2	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	18.14	19.42	18.50	19.73	20.05	0.00	0.00	0.00	0.00	0.00
	3H	20.08	21.22	20.46	21.55	21.91	0.00	0.00	0.00	0.00	0.00
	4H	20.91	21.96	21.31	22.32	22.70	0.00	0.00	0.00	0.00	0.00
	6H	21.46	22.43	21.88	22.80	23.20	0.00	0.00	0.00	0.00	0.00
	8H	21.59	22.51	22.02	22.90	23.30	0.00	0.00	0.00	0.00	0.00
	12H	21.61	22.49	22.05	22.87	23.30	0.00	0.00	0.00	0.00	0.00
4H	2H	17.90	18.96	18.30	19.31	19.69	0.00	0.00	0.00	0.00	0.00
	3H	19.85	20.72	20.27	21.12	21.52	0.00	0.00	0.00	0.00	0.00
	4H	20.67	21.44	21.10	21.86	22.30	0.00	0.00	0.00	0.00	0.00
	6H	21.27	21.93	21.73	22.38	22.85	0.00	0.00	0.00	0.00	0.00
	8H	21.42	22.04	21.89	22.49	22.96	0.00	0.00	0.00	0.00	0.00
	12H	21.47	22.01	21.95	22.50	22.97	0.00	0.00	0.00	0.00	0.00
8H	4H	20.52	21.14	20.99	21.59	22.06	0.00	0.00	0.00	0.00	0.00
	6H	21.11	21.61	21.61	22.11	22.59	0.00	0.00	0.00	0.00	0.00
	8H	21.26	21.71	21.78	22.22	22.72	0.00	0.00	0.00	0.00	0.00
	12H	21.31	21.71	21.83	22.20	22.78	0.00	0.00	0.00	0.00	0.00
12H	4H	20.48	21.02	20.96	21.50	21.98	0.00	0.00	0.00	0.00	0.00
	6H	21.04	21.49	21.57	22.01	22.50	0.00	0.00	0.00	0.00	0.00
	8H	21.21	21.61	21.73	22.10	22.67	0.00	0.00	0.00	0.00	0.00