

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: P1056206

Luminaire Tested: S124R3DR-H795D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056206
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-9)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H795D850-X4F0-XX-UDD-F-S
Description: DEFINE 4, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

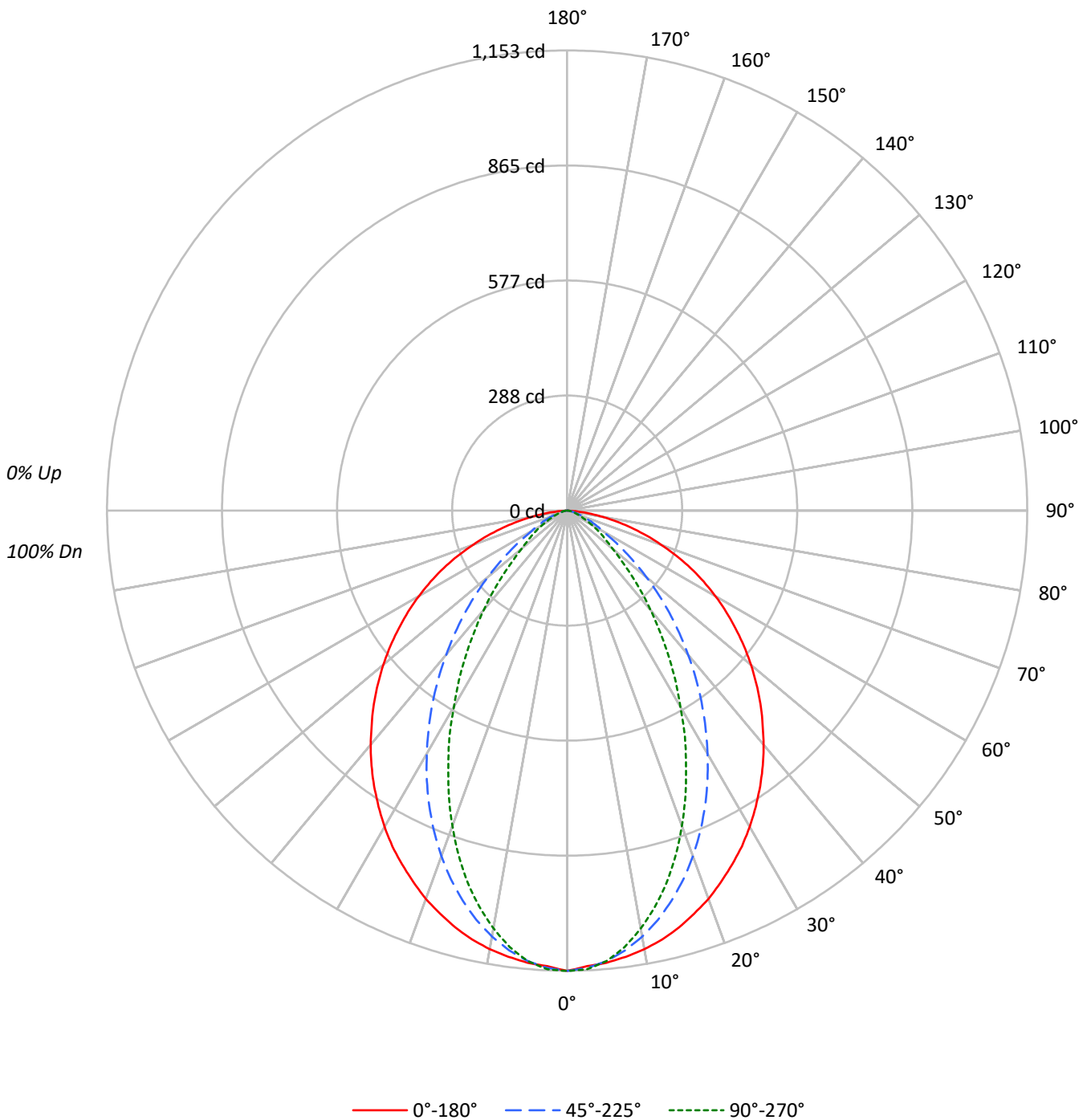
Lumens per Lamp: N/A
Luminaire Lumens: 1865.0 lumens
Efficiency: N/A
Efficacy: 78.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.87 / 1.03
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
Input Voltage (V): 120
Input Current (A_{in}): 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	107	104	101	108	105	102	99	101	98	96	97	95	93	94	92	90	89					89			
2	103	96	91	86	101	94	89	85	91	87	83	88	84	81	85	82	79	78					78			
3	95	87	80	74	93	85	79	74	82	77	73	80	75	71	77	73	70	68					68			
4	89	78	71	65	86	77	70	65	75	69	64	73	67	63	71	66	62	60					60			
5	82	71	64	58	80	70	63	58	68	62	57	66	61	56	65	60	56	54					54			
6	77	65	57	52	75	64	57	52	63	56	51	61	55	51	60	54	50	48					48			
7	72	60	52	47	70	59	52	47	58	51	46	56	50	46	55	50	46	44					44			
8	67	55	48	42	66	55	47	42	53	47	42	52	46	42	51	46	42	40					40			
9	63	51	44	39	62	51	44	39	50	43	39	49	43	38	48	42	38	37					37			
10	60	48	41	36	59	47	40	36	46	40	36	45	40	35	45	39	35	34					34			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10198	10198	10198
5°	10094	10056	10056
10°	10017	9728	9545
15°	9898	9259	8827
20°	9741	8669	7912
25°	9544	7973	6873
30°	9341	7181	5789
35°	9099	6340	4764
40°	8837	5442	3756
45°	8567	4525	2806
50°	8272	3560	2054
55°	7946	2633	1639
60°	7597	1823	1254
65°	7144	1416	921
70°	6468	1000	721
75°	5650	697	550
80°	4537	545	494
85°	2506	436	436

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8567 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.0	5.7
10°-20°	285.9	15.3
20°-30°	381.3	20.4
30°-40°	383.9	20.6
40°-50°	314.8	16.9
50°-60°	215.2	11.5
60°-70°	120.2	6.4
70°-80°	47.7	2.6
80°-90°	9.0	0.5
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°	774.1	41.5
0°-40°	1158.0	62.1
0°-60°	1688.0	90.5
0°-90°	1865.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1865.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1153	1153	1153	1153	1153	
5°	1137	1150	1133	1128	1133	108
15°	1081	1070	1012	976	964	305
25°	978	930	817	735	704	451
35°	843	754	587	476	441	527
45°	685	560	362	254	224	528
55°	516	362	171	114	106	461
65°	342	172	68	48	44	337
75°	165	45	20	17	16	177
85°	25	4	4	4	4	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1153.4	1153.4	1153.4	1153.4	1153.4
2.5°	1142.7	1156.6	1146.9	1148.0	1150.2
5°	1137.3	1150.2	1133.0	1127.6	1133.0
7.5°	1127.6	1137.3	1111.5	1100.8	1102.9
10°	1115.8	1119.0	1083.6	1065.3	1063.2
12.5°	1100.8	1096.5	1050.3	1023.4	1017.0
15°	1081.4	1069.6	1011.6	976.2	964.4
17.5°	1058.9	1038.5	968.7	922.5	905.3
20°	1035.3	1005.2	921.4	862.4	840.9
22.5°	1007.3	969.8	871.0	799.0	774.3
25°	978.3	930.0	817.3	734.6	704.5
27.5°	948.3	889.2	761.4	669.1	639.0
30°	915.0	845.2	703.4	603.5	567.0
32.5°	879.5	800.1	645.4	539.1	504.7
35°	843.0	753.9	587.4	475.7	441.4
37.5°	805.4	706.6	529.4	415.6	381.2
40°	765.7	658.3	471.5	358.7	325.4
42.5°	724.9	608.9	415.6	305.0	273.9
45°	685.2	559.5	361.9	254.5	224.4
47.5°	643.3	510.1	309.3	207.3	181.5
50°	601.4	460.7	258.8	166.5	149.3
52.5°	558.4	411.3	212.6	136.4	124.6
55°	515.5	361.9	170.8	113.8	106.3
57.5°	472.5	312.5	132.1	96.7	88.1
60°	429.6	264.2	103.1	78.4	70.9
62.5°	385.5	215.9	84.8	62.3	55.8
65°	341.5	171.8	67.7	48.3	44.0
67.5°	297.5	131.0	51.5	37.6	34.4
70°	250.2	93.4	38.7	29.0	27.9
72.5°	209.4	63.4	27.9	22.6	21.5
75°	165.4	45.1	20.4	17.2	16.1
77.5°	127.8	29.0	15.0	14.0	12.9
80°	89.1	16.1	10.7	9.7	9.7
82.5°	54.8	8.6	7.5	6.4	6.4
85°	24.7	4.3	4.3	4.3	4.3
87.5°	4.3	2.1	2.1	2.1	2.1
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	18.79	20.20	19.16	20.51	20.83	9.89	11.29	10.25	11.60	11.92
	3H	20.38	21.63	20.76	21.96	22.32	10.48	11.73	10.86	12.06	12.42
	4H	20.97	22.14	21.37	22.49	22.87	10.63	11.80	11.04	12.15	12.53
	6H	21.40	22.48	21.82	22.85	23.24	10.74	11.82	11.16	12.19	12.58
	8H	21.52	22.54	21.95	22.93	23.33	10.76	11.78	11.19	12.17	12.58
	12H	21.56	22.54	21.99	22.92	23.35	10.77	11.74	11.20	12.13	12.56
4H	2H	18.65	19.81	19.05	20.16	20.55	10.47	11.64	10.87	11.99	12.37
	3H	20.29	21.25	20.71	21.65	22.06	11.18	12.14	11.59	12.54	12.94
	4H	20.90	21.76	21.33	22.18	22.62	11.38	12.24	11.82	12.66	13.10
	6H	21.39	22.13	21.85	22.58	23.04	11.55	12.29	12.01	12.74	13.20
	8H	21.53	22.23	22.00	22.67	23.14	11.58	12.28	12.05	12.72	13.19
	12H	21.61	22.22	22.09	22.70	23.18	11.61	12.22	12.09	12.70	13.18
8H	4H	20.79	21.48	21.26	21.93	22.40	11.66	12.35	12.12	12.79	13.26
	6H	21.27	21.84	21.77	22.33	22.81	11.86	12.43	12.36	12.92	13.40
	8H	21.42	21.93	21.94	22.44	22.93	11.92	12.42	12.44	12.94	13.43
	12H	21.51	21.96	22.02	22.45	23.02	11.98	12.42	12.49	12.92	13.49
12H	4H	20.75	21.37	21.24	21.85	22.32	11.68	12.30	12.17	12.78	13.25
	6H	21.22	21.73	21.74	22.24	22.73	11.89	12.40	12.41	12.91	13.40
	8H	21.38	21.83	21.90	22.33	22.89	11.98	12.43	12.49	12.92	13.49