

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: P1056178

Luminaire Tested: S124R3DR-H575D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056178
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H575D850-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

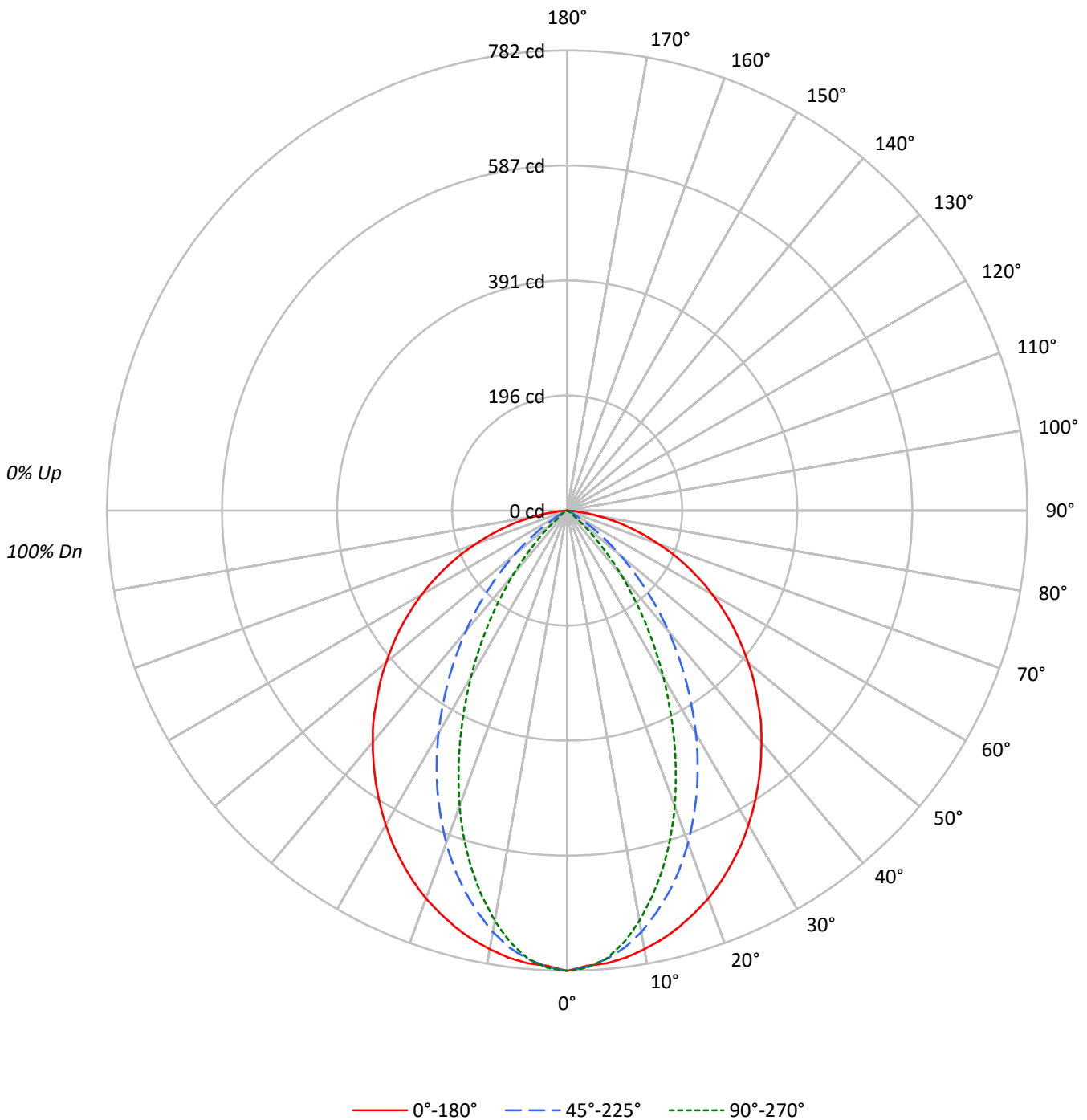
Lumens per Lamp: N/A
Luminaire Lumens: 1093.2 lumens
Efficiency: N/A
Efficacy: 63.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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

TEST NUMBER: P1056178

CATALOG NUMBER: S124R3DR-H575D850-X4F0-XX-UDD-F-B

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	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6916	6916	6916
5°	6853	6792	6785
10°	6794	6526	6354
15°	6710	6135	5756
20°	6601	5657	5029
25°	6456	5094	4197
30°	6294	4471	3335
35°	6117	3791	2482
40°	5930	3089	1655
45°	5724	2358	910
50°	5527	1613	253
55°	5307	874	165
60°	5045	271	95
65°	4715	176	48
70°	4263	80	21
75°	3669	27	0
80°	2770	0	0
85°	1167	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5724 cd/sqm



TEST NUMBER: P1056178

CATALOG NUMBER: S124R3DR-H575D850-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	72.2	6.6
10°-20°	189.4	17.3
20°-30°	244.8	22.4
30°-40°	234.0	21.4
40°-50°	175.0	16.0
50°-60°	104.1	9.5
60°-70°	52.9	4.8
70°-80°	18.4	1.7
80°-90°	2.5	0.2
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°	506.4	46.3
0°-40°	740.3	67.7
0°-60°	1019.4	93.3
0°-90°	1093.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1093.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	782	782	782	782	782	
5°	772	778	765	762	764	73
15°	733	718	670	639	629	207
25°	662	616	522	453	430	305
35°	567	488	351	262	230	354
45°	458	351	189	100	73	354
55°	344	214	57	13	11	307
65°	225	87	8	3	2	223
75°	107	12	1	1	0	114
85°	12	0	0	0	0	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	782.2	782.2	782.2	782.2	782.2
2.5°	774.5	783.7	776.0	776.8	777.6
5°	772.2	778.3	765.3	761.5	764.5
7.5°	766.1	768.4	749.2	739.2	740.0
10°	756.8	754.5	726.9	710.1	707.8
12.5°	746.1	738.4	700.1	675.6	670.2
15°	733.1	717.7	670.2	638.8	628.8
17.5°	717.7	695.5	637.2	595.8	583.5
20°	701.6	671.0	601.2	549.8	534.5
22.5°	682.5	643.4	562.1	501.5	482.3
25°	661.8	615.8	522.2	453.2	430.2
27.5°	640.3	585.8	480.0	404.1	377.3
30°	616.5	554.4	437.9	354.3	326.7
32.5°	592.0	522.2	394.1	308.3	277.6
35°	566.7	488.5	351.2	261.5	230.0
37.5°	540.6	454.7	309.8	217.0	184.8
40°	513.8	420.2	267.6	174.8	143.4
42.5°	487.7	385.7	227.7	135.0	105.8
45°	457.8	351.2	188.6	100.5	72.8
47.5°	431.0	317.5	151.1	68.2	42.9
50°	401.8	281.4	117.3	39.9	18.4
52.5°	372.7	247.7	85.9	17.6	13.8
55°	344.3	213.9	56.7	13.0	10.7
57.5°	314.4	180.2	30.7	10.0	7.7
60°	285.3	147.2	15.3	7.7	5.4
62.5°	255.4	115.8	12.3	4.6	3.1
65°	225.4	86.7	8.4	3.1	2.3
67.5°	195.5	59.0	5.4	1.5	0.8
70°	164.9	36.0	3.1	0.8	0.8
72.5°	135.7	18.4	1.5	0.8	0.8
75°	107.4	11.5	0.8	0.8	0.0
77.5°	79.7	6.1	0.8	0.8	0.0
80°	54.4	2.3	0.0	0.0	0.0
82.5°	31.4	0.8	0.0	0.0	0.0
85°	11.5	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	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	17.17	18.50	17.54	18.81	19.13	0.00	0.00	0.00	0.00	0.00
	3H	18.72	19.89	19.10	20.22	20.59	0.00	0.00	0.00	0.00	0.00
	4H	19.31	20.41	19.71	20.76	21.14	0.00	0.00	0.00	0.00	0.00
	6H	19.73	20.73	20.14	21.10	21.50	0.00	0.00	0.00	0.00	0.00
	8H	19.82	20.78	20.25	21.17	21.57	0.00	0.00	0.00	0.00	0.00
	12H	19.84	20.75	20.28	21.14	21.57	0.00	0.00	0.00	0.00	0.00
4H	2H	16.95	18.05	17.35	18.40	18.78	0.00	0.00	0.00	0.00	0.00
	3H	18.51	19.41	18.93	19.81	20.21	0.00	0.00	0.00	0.00	0.00
	4H	19.10	19.90	19.53	20.31	20.76	0.00	0.00	0.00	0.00	0.00
	6H	19.56	20.24	20.02	20.69	21.16	0.00	0.00	0.00	0.00	0.00
	8H	19.68	20.32	20.15	20.76	21.24	0.00	0.00	0.00	0.00	0.00
	12H	19.72	20.28	20.20	20.77	21.24	0.00	0.00	0.00	0.00	0.00
8H	4H	18.96	19.60	19.43	20.05	20.52	0.00	0.00	0.00	0.00	0.04
	6H	19.40	19.92	19.90	20.42	20.90	0.00	0.00	0.00	0.00	0.00
	8H	19.52	19.99	20.04	20.50	20.99	0.00	0.00	0.00	0.00	0.00
	12H	19.57	19.98	20.08	20.47	21.05	0.00	0.00	0.00	0.00	0.00
12H	4H	18.92	19.48	19.40	19.96	20.44	0.00	0.00	0.00	0.00	0.41
	6H	19.34	19.81	19.86	20.32	20.82	0.00	0.00	0.00	0.00	0.26
	8H	19.47	19.89	19.99	20.38	20.95	0.00	0.00	0.00	0.00	0.22