

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: P1056145

Luminaire Tested: S124R3DR-H350D835-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056145
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-H350D835-X4F0-XX-UDD-F-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

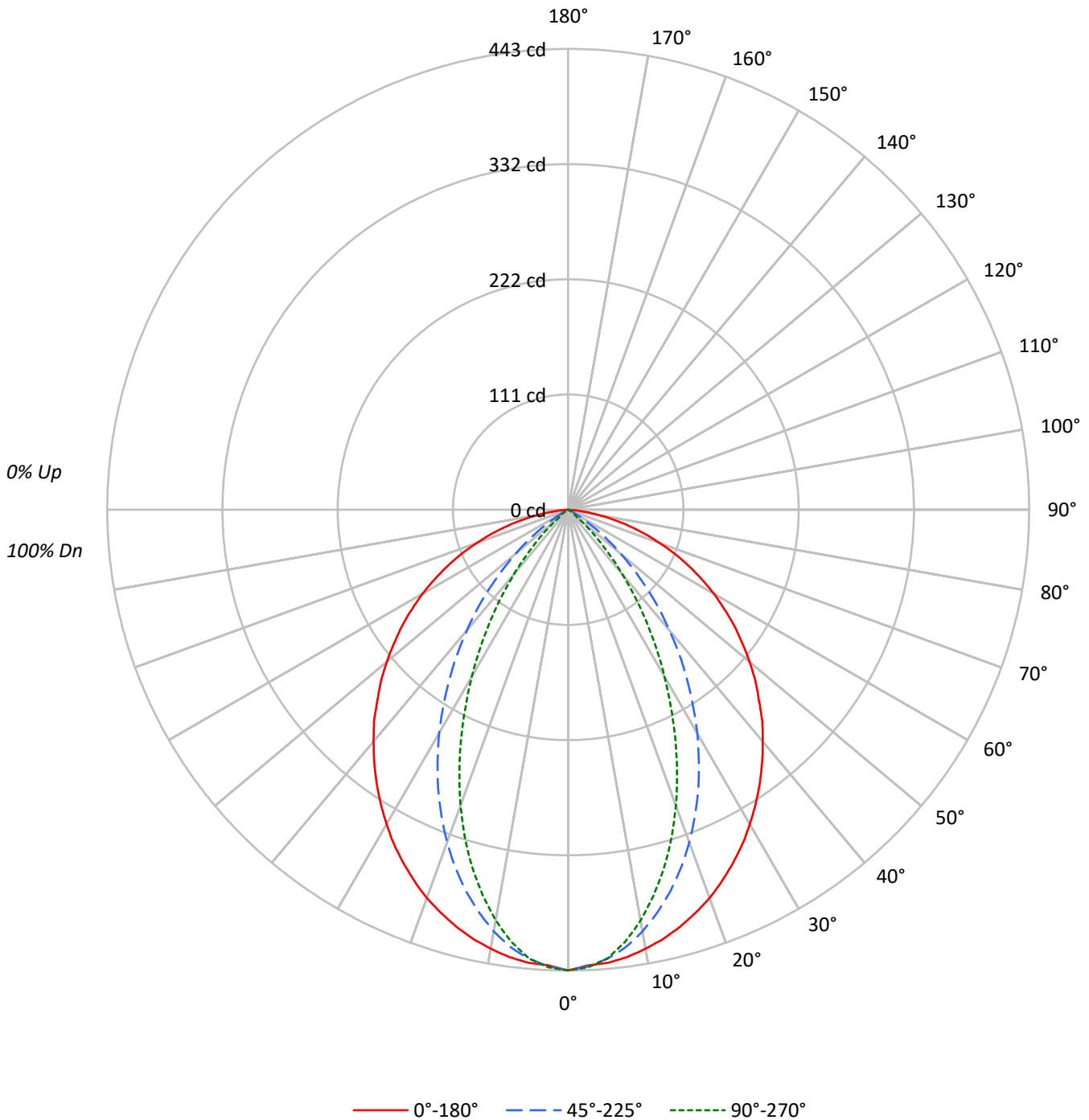
Lumens per Lamp: N/A
Luminaire Lumens: 619.0 lumens
Efficiency: N/A
Efficacy: 52.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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: P1056145

CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-B

Luminous Intensity Polar Plot





TEST NUMBER: P1056145

CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-B

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3916	3916	3916
5°	3880	3846	3842
10°	3847	3695	3598
15°	3800	3474	3259
20°	3738	3203	2847
25°	3655	2885	2376
30°	3564	2531	1889
35°	3464	2147	1406
40°	3357	1749	937
45°	3241	1335	515
50°	3129	913	143
55°	3006	495	94
60°	2856	154	53
65°	2672	100	27
70°	2414	44	10
75°	2077	14	0
80°	1568	0	0
85°	659	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3241 cd/sqm



TEST NUMBER: P1056145

CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	6.6
10°-20°	107.3	17.3
20°-30°	138.6	22.4
30°-40°	132.5	21.4
40°-50°	99.1	16.0
50°-60°	58.9	9.5
60°-70°	29.9	4.8
70°-80°	10.4	1.7
80°-90°	1.4	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°	286.7	46.3
0°-40°	419.2	67.7
0°-60°	577.2	93.3
0°-90°	619.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	619.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	443	443	443	443	443	
5°	437	441	433	431	433	41
15°	415	406	380	362	356	117
25°	375	349	296	257	244	173
35°	321	277	199	148	130	201
45°	259	199	107	57	41	200
55°	195	121	32	7	6	174
65°	128	49	5	2	1	126
75°	61	6	0	0	0	65
85°	6	0	0	0	0	11
90°	0	0	0	0	0	



TEST NUMBER: P1056145

CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-B

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	442.9	442.9	442.9	442.9	442.9
2.5°	438.5	443.7	439.4	439.8	440.3
5°	437.2	440.7	433.3	431.2	432.9
7.5°	433.8	435.1	424.2	418.6	419.0
10°	428.5	427.2	411.6	402.1	400.8
12.5°	422.5	418.1	396.4	382.5	379.5
15°	415.1	406.4	379.5	361.7	356.0
17.5°	406.4	393.8	360.8	337.4	330.4
20°	397.3	379.9	340.4	311.3	302.6
22.5°	386.4	364.3	318.3	284.0	273.1
25°	374.7	348.7	295.7	256.6	243.6
27.5°	362.6	331.7	271.8	228.8	213.6
30°	349.1	313.9	247.9	200.6	185.0
32.5°	335.2	295.7	223.2	174.5	157.2
35°	320.9	276.6	198.9	148.1	130.3
37.5°	306.1	257.5	175.4	122.9	104.6
40°	290.9	237.9	151.5	99.0	81.2
42.5°	276.1	218.4	129.0	76.4	59.9
45°	259.2	198.9	106.8	56.9	41.2
47.5°	244.0	179.8	85.5	38.6	24.3
50°	227.5	159.3	66.4	22.6	10.4
52.5°	211.0	140.2	48.6	10.0	7.8
55°	195.0	121.1	32.1	7.4	6.1
57.5°	178.0	102.0	17.4	5.6	4.3
60°	161.5	83.4	8.7	4.3	3.0
62.5°	144.6	65.6	6.9	2.6	1.7
65°	127.7	49.1	4.8	1.7	1.3
67.5°	110.7	33.4	3.0	0.9	0.4
70°	93.4	20.4	1.7	0.4	0.4
72.5°	76.9	10.4	0.9	0.4	0.4
75°	60.8	6.5	0.4	0.4	0.0
77.5°	45.2	3.5	0.4	0.4	0.0
80°	30.8	1.3	0.0	0.0	0.0
82.5°	17.8	0.4	0.0	0.0	0.0
85°	6.5	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



TEST NUMBER: P1056145
 CATALOG NUMBER: S124R3DR-H350D835-X4F0-XX-UDD-F-B

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	15.20	16.52	15.56	16.84	17.15	0.00	0.00	0.00	0.00	0.00
	3H	16.74	17.92	17.12	18.25	18.61	0.00	0.00	0.00	0.00	0.00
	4H	17.33	18.43	17.74	18.78	19.16	0.00	0.00	0.00	0.00	0.00
	6H	17.75	18.76	18.17	19.13	19.52	0.00	0.00	0.00	0.00	0.00
	8H	17.85	18.80	18.28	19.19	19.60	0.00	0.00	0.00	0.00	0.00
	12H	17.87	18.78	18.30	19.16	19.59	0.00	0.00	0.00	0.00	0.00
4H	2H	14.97	16.07	15.38	16.42	16.80	0.00	0.00	0.00	0.00	0.00
	3H	16.54	17.43	16.95	17.84	18.24	0.00	0.00	0.00	0.00	0.00
	4H	17.12	17.92	17.56	18.34	18.78	0.00	0.00	0.00	0.00	0.00
	6H	17.58	18.27	18.04	18.72	19.18	0.00	0.00	0.00	0.00	0.00
	8H	17.70	18.34	18.17	18.79	19.26	0.00	0.00	0.00	0.00	0.00
	12H	17.74	18.31	18.23	18.79	19.26	0.00	0.00	0.00	0.00	0.00
8H	4H	16.99	17.63	17.45	18.07	18.54	0.00	0.00	0.00	0.00	0.00
	6H	17.43	17.95	17.93	18.45	18.93	0.00	0.00	0.00	0.00	0.00
	8H	17.54	18.01	18.07	18.53	19.02	0.00	0.00	0.00	0.00	0.00
	12H	17.59	18.00	18.11	18.50	19.07	0.00	0.00	0.00	0.00	0.00
12H	4H	16.94	17.51	17.43	17.99	18.46	0.00	0.00	0.00	0.00	0.00
	6H	17.36	17.83	17.89	18.35	18.84	0.00	0.00	0.00	0.00	0.00
	8H	17.50	17.91	18.01	18.41	18.98	0.00	0.00	0.00	0.00	0.00