

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: P1055370

Luminaire Tested: S122R3DR-H675D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055370  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-H675D850-X4F0-XX-UDD-F-W  
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

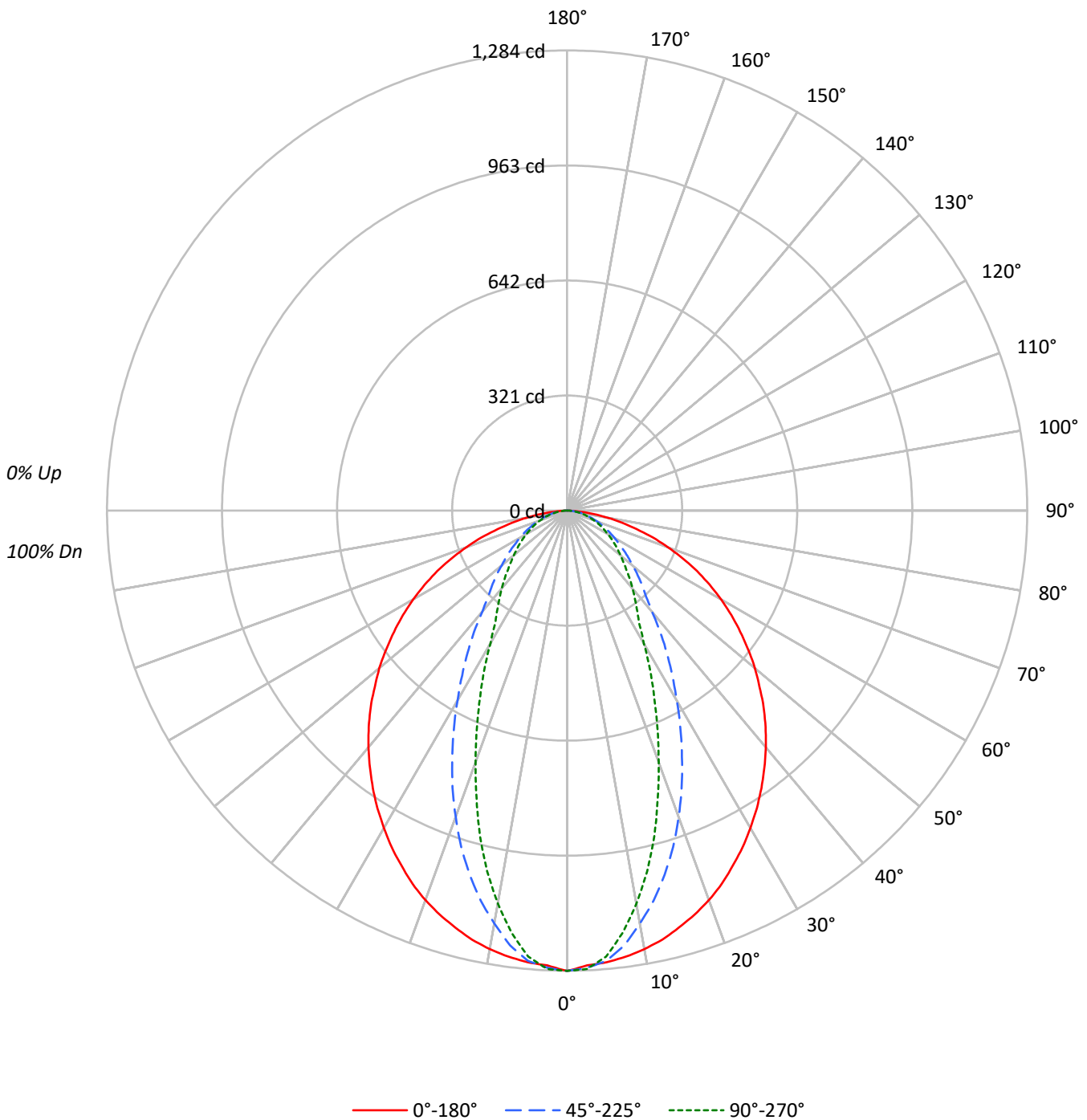
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1942.7 lumens  
Efficiency: N/A  
Efficacy: 81.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
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

TEST NUMBER: P1055370

CATALOG NUMBER: S122R3DR-H675D850-X4F0-XX-UDD-F-W

### Luminous Intensity Polar Plot





TEST NUMBER: P1055370

CATALOG NUMBER: S122R3DR-H675D850-X4F0-XX-UDD-F-W

**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	110	106	102	99	108	104	101	97	100	97	94	96	94	92	92	91	89					87				
2	102	95	89	84	99	93	87	83	89	85	81	86	82	79	83	80	77					75				
3	94	85	78	72	92	83	77	71	80	75	70	78	73	69	75	71	68					66				
4	87	76	69	63	85	75	68	62	73	66	61	71	65	61	68	64	60					58				
5	81	69	61	55	79	68	61	55	66	60	55	64	59	54	63	58	54					52				
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48					46				
7	71	58	50	45	69	58	50	45	56	49	44	55	49	44	53	48	44					42				
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40					38				
9	62	50	43	37	61	49	42	37	48	42	37	47	41	37	46	41	37					35				
10	59	47	39	35	58	46	39	34	45	39	34	44	38	34	43	38	34					32				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	24334	24334	24334
5°	24060	23978	23754
10°	23903	22499	21425
15°	23633	20622	18431
20°	23319	18339	15049
25°	22855	15850	12010
30°	22367	13391	9374
35°	21859	11201	7873
40°	21329	9084	7012
45°	20776	7942	6272
50°	20164	7027	5730
55°	19475	6349	5321
60°	18802	5778	4964
65°	17909	5294	4671
70°	16596	4936	4404
75°	14699	4480	4165
80°	12536	4222	3862
85°	8630	3739	3500

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 20776 cd/sqm

TEST NUMBER: P1055370

CATALOG NUMBER: S122R3DR-H675D850-X4F0-XX-UDD-F-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.7	6.1
10°-20°	297.2	15.3
20°-30°	366.2	18.8
30°-40°	351.3	18.1
40°-50°	303.0	15.6
50°-60°	235.1	12.1
60°-70°	161.0	8.3
70°-80°	87.4	4.5
80°-90°	23.9	1.2
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°	781.0	40.2
0°-40°	1132.3	58.3
0°-60°	1670.4	86.0
0°-90°	1942.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1942.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1284	1284	1284	1284	1284	
5°	1265	1283	1261	1245	1249	120
15°	1205	1168	1051	966	940	340
25°	1093	976	758	619	574	504
35°	945	750	484	361	340	591
45°	775	522	296	245	234	598
55°	590	314	192	166	161	528
65°	400	171	118	107	104	394
75°	201	78	61	58	57	215
85°	40	19	17	17	16	51
90°	0	0	0	0	0	



TEST NUMBER: P1055370

CATALOG NUMBER: S122R3DR-H675D850-X4F0-XX-UDD-F-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1284.4	1284.4	1284.4	1284.4	1284.4
2.5°	1270.5	1291.9	1276.9	1276.9	1280.1
5°	1265.1	1283.3	1260.8	1244.7	1249.0
7.5°	1255.4	1268.3	1223.2	1188.8	1187.8
10°	1242.5	1243.6	1169.5	1124.4	1113.7
12.5°	1226.4	1209.2	1114.7	1047.1	1031.0
15°	1204.9	1168.4	1051.4	965.5	939.7
17.5°	1182.4	1126.5	983.7	876.3	840.9
20°	1156.6	1076.1	909.6	787.2	746.4
22.5°	1127.6	1027.7	835.5	701.3	658.3
25°	1093.3	976.2	758.2	618.6	574.5
27.5°	1060.0	923.6	684.1	545.6	500.4
30°	1022.4	866.7	612.1	475.7	428.5
32.5°	984.8	808.7	545.6	409.2	373.7
35°	945.1	749.6	484.3	360.8	340.4
37.5°	904.2	691.6	426.3	328.6	310.4
40°	862.4	633.6	367.3	297.5	283.5
42.5°	819.4	576.7	326.5	271.7	258.8
45°	775.4	521.9	296.4	244.9	234.1
47.5°	728.1	467.2	267.4	222.3	212.6
50°	684.1	414.5	238.4	201.9	194.4
52.5°	636.8	363.0	214.8	183.6	177.2
55°	589.6	313.6	192.2	166.5	161.1
57.5°	543.4	266.3	170.8	150.3	146.1
60°	496.2	228.7	152.5	135.3	131.0
62.5°	447.8	198.7	135.3	121.4	117.1
65°	399.5	170.8	118.1	107.4	104.2
67.5°	349.0	143.9	103.1	94.5	92.4
70°	299.6	120.3	89.1	81.6	79.5
72.5°	251.3	97.7	75.2	69.8	67.7
75°	200.8	78.4	61.2	58.0	56.9
77.5°	156.8	61.2	49.4	47.3	46.2
80°	114.9	45.1	38.7	36.5	35.4
82.5°	76.2	31.1	27.9	26.8	25.8
85°	39.7	19.3	17.2	17.2	16.1
87.5°	12.9	8.6	8.6	8.6	7.5
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055370  
 CATALOG NUMBER: S122R3DR-H675D850-X4F0-XX-UDD-F-W

**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	20.70	22.17	21.06	22.48	22.79	15.50	16.97	15.87	17.28	17.60
	3H	23.03	24.34	23.41	24.67	25.04	17.15	18.47	17.53	18.80	19.16
	4H	23.92	25.16	24.32	25.51	25.89	17.79	19.02	18.19	19.37	19.75
	6H	24.59	25.73	25.00	26.09	26.49	18.28	19.42	18.69	19.79	20.18
	8H	24.79	25.88	25.22	26.27	26.67	18.45	19.53	18.88	19.92	20.33
	12H	24.91	25.95	25.34	26.33	26.76	18.57	19.60	19.00	19.99	20.42
4H	2H	20.71	21.95	21.11	22.30	22.68	16.22	17.45	16.62	17.80	18.18
	3H	23.13	24.15	23.54	24.55	24.95	18.07	19.09	18.48	19.49	19.89
	4H	24.06	24.98	24.49	25.40	25.83	18.81	19.74	19.25	20.15	20.59
	6H	24.83	25.64	25.29	26.08	26.54	19.43	20.23	19.89	20.67	21.14
	8H	25.10	25.85	25.57	26.30	26.77	19.65	20.39	20.11	20.84	21.31
	12H	25.28	25.95	25.76	26.43	26.90	19.81	20.48	20.29	20.95	21.43
8H	4H	24.05	24.80	24.51	25.24	25.71	19.19	19.94	19.66	20.39	20.86
	6H	24.86	25.47	25.35	25.97	26.44	19.93	20.55	20.43	21.04	21.52
	8H	25.16	25.71	25.67	26.22	26.71	20.23	20.78	20.74	21.29	21.78
	12H	25.39	25.88	25.90	26.37	26.94	20.47	20.96	20.98	21.45	22.02
12H	4H	24.03	24.70	24.51	25.18	25.65	19.25	19.92	19.73	20.40	20.87
	6H	24.83	25.39	25.35	25.90	26.39	20.02	20.57	20.53	21.08	21.57
	8H	25.17	25.66	25.68	26.15	26.71	20.37	20.86	20.88	21.35	21.92