

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055721

Luminaire Tested: S123R3DR-H1165D850-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055721
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H1165D850-X4F0-XX-UDD-FLL-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

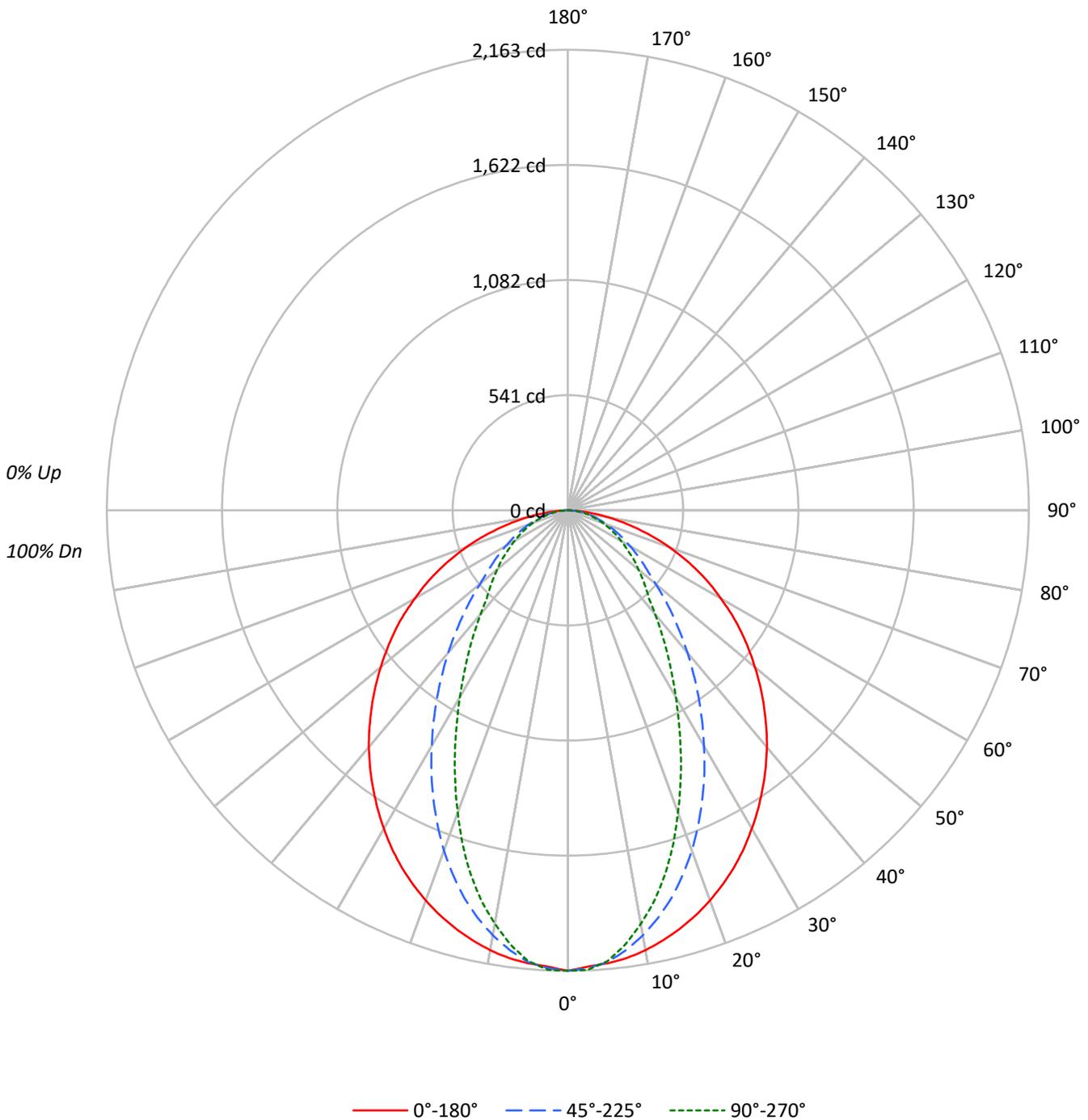
Lumens per Lamp: N/A
Luminaire Lumens: 3793.8 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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: P1055721

CATALOG NUMBER: S123R3DR-H1165D850-X4F0-XX-UDD-FLL-W

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	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86					86			
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74					74			
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65					65			
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37					37			
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34					34			
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31					31			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	26079	26079	26079
5°	25846	25788	25729
10°	25689	24818	24144
15°	25384	23506	22051
20°	25014	21816	19388
25°	24578	19865	16680
30°	24033	17771	14100
35°	23455	15716	11906
40°	22866	13724	10007
45°	22179	11835	8827
50°	21485	10074	8103
55°	20847	8978	7481
60°	19975	8114	6983
65°	19154	7432	6553
70°	17851	6842	6158
75°	15978	6331	5804
80°	13705	5839	5395
85°	9628	5367	5146

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 22179 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.5	5.3
10°-20°	530.5	14.0
20°-30°	698.9	18.4
30°-40°	709.3	18.7
40°-50°	616.5	16.3
50°-60°	483.1	12.7
60°-70°	328.2	8.7
70°-80°	177.9	4.7
80°-90°	49.0	1.3
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°	1429.9	37.7
0°-40°	2139.2	56.4
0°-60°	3238.7	85.4
0°-90°	3793.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3793.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2163	2163	2163	2163	2163	
5°	2136	2162	2131	2111	2126	203
15°	2034	2005	1883	1791	1767	573
25°	1848	1736	1493	1307	1254	850
35°	1594	1404	1068	864	809	997
45°	1301	1044	694	536	518	1004
55°	992	689	427	364	356	885
65°	671	372	260	233	230	663
75°	343	172	136	126	125	366
85°	70	42	39	36	37	88
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2163.1	2163.1	2163.1	2163.1	2163.1
2.5°	2145.3	2172.8	2151.8	2153.4	2159.9
5°	2135.6	2161.5	2130.8	2111.4	2125.9
7.5°	2121.1	2140.5	2083.9	2053.1	2058.0
10°	2098.4	2104.9	2027.2	1978.7	1972.2
12.5°	2067.7	2056.4	1959.3	1888.1	1876.8
15°	2033.7	2004.6	1883.2	1791.0	1766.7
17.5°	1994.9	1946.3	1794.3	1681.0	1643.8
20°	1949.6	1881.6	1700.4	1556.4	1511.1
22.5°	1901.0	1813.7	1598.5	1428.6	1381.7
25°	1847.6	1736.0	1493.3	1307.3	1253.9
27.5°	1789.4	1658.3	1386.5	1187.5	1127.7
30°	1726.3	1577.5	1276.5	1071.0	1012.8
32.5°	1661.6	1491.7	1171.4	962.7	906.0
35°	1593.6	1404.3	1067.8	864.0	808.9
37.5°	1524.1	1315.4	967.5	770.1	718.3
40°	1452.9	1224.7	872.0	682.8	635.8
42.5°	1376.8	1134.1	779.8	600.2	564.6
45°	1300.8	1043.5	694.1	535.5	517.7
47.5°	1224.7	951.3	613.2	490.2	474.0
50°	1145.5	862.3	537.1	448.2	432.0
52.5°	1067.8	775.0	474.0	407.7	396.4
55°	991.8	689.2	427.1	364.0	355.9
57.5°	912.5	605.1	380.2	330.1	320.3
60°	828.4	524.2	336.5	294.5	289.6
62.5°	752.3	448.2	297.7	263.7	258.9
65°	671.4	372.1	260.5	233.0	229.7
67.5°	588.9	309.0	226.5	203.9	202.2
70°	506.4	260.5	194.1	176.4	174.7
72.5°	425.5	215.2	163.4	152.1	148.8
75°	343.0	171.5	135.9	126.2	124.6
77.5°	268.6	132.7	108.4	101.9	100.3
80°	197.4	98.7	84.1	79.3	77.7
82.5°	129.4	68.0	59.9	56.6	56.6
85°	69.6	42.1	38.8	35.6	37.2
87.5°	24.3	17.8	17.8	16.2	17.8
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	21.89	23.38	22.25	23.69	24.01	17.04	18.53	17.40	18.84	19.16
	3H	23.78	25.11	24.15	25.44	25.80	18.67	20.00	19.04	20.33	20.69
	4H	24.53	25.79	24.93	26.14	26.52	19.30	20.56	19.70	20.91	21.29
	6H	25.10	26.26	25.51	26.62	27.02	19.79	20.95	20.20	21.32	21.71
	8H	25.27	26.37	25.70	26.76	27.16	19.96	21.07	20.39	21.46	21.86
	12H	25.37	26.42	25.80	26.81	27.23	20.09	21.14	20.52	21.53	21.96
4H	2H	21.93	23.19	22.33	23.54	23.92	17.77	19.02	18.17	19.37	19.75
	3H	23.95	25.00	24.36	25.40	25.80	19.59	20.63	20.00	21.03	21.43
	4H	24.77	25.71	25.20	26.12	26.56	20.33	21.27	20.77	21.69	22.13
	6H	25.45	26.27	25.91	26.71	27.17	20.94	21.76	21.40	22.20	22.66
	8H	25.68	26.45	26.15	26.89	27.36	21.16	21.92	21.62	22.37	22.83
	12H	25.83	26.52	26.32	27.00	27.47	21.33	22.01	21.81	22.49	22.96
8H	4H	24.79	25.56	25.26	26.00	26.47	20.72	21.48	21.18	21.92	22.39
	6H	25.52	26.15	26.02	26.65	27.12	21.45	22.08	21.94	22.57	23.05
	8H	25.79	26.36	26.31	26.87	27.36	21.73	22.30	22.25	22.81	23.30
	12H	26.00	26.50	26.51	26.99	27.56	21.98	22.48	22.49	22.97	23.53
12H	4H	24.78	25.46	25.26	25.94	26.41	20.77	21.45	21.25	21.93	22.40
	6H	25.51	26.07	26.02	26.58	27.07	21.53	22.09	22.04	22.60	23.09
	8H	25.81	26.31	26.32	26.80	27.37	21.87	22.37	22.38	22.87	23.43