

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: P1055577

Luminaire Tested: S123R3DR-S1165D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055577
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-S1165D830-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

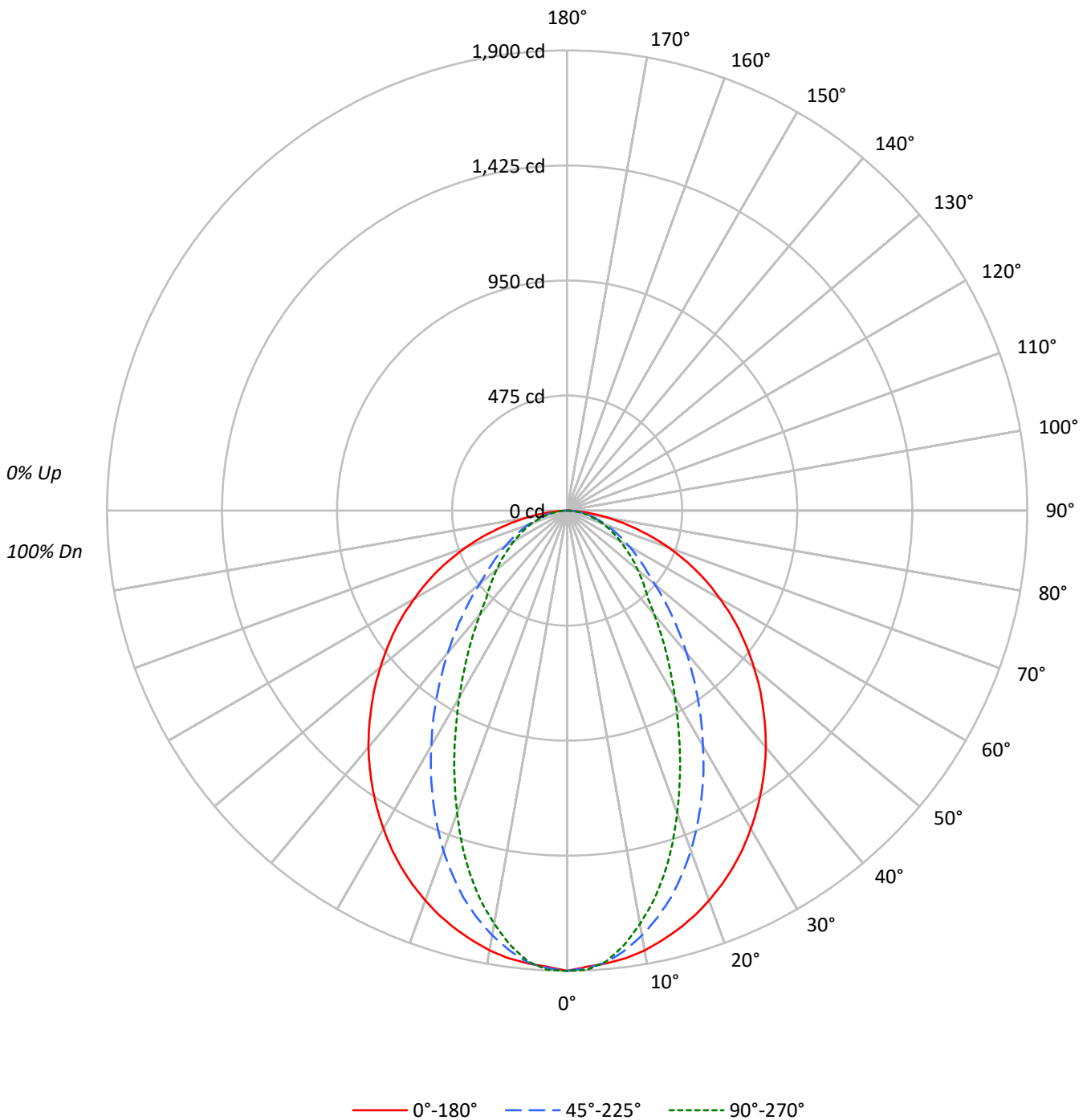
Lumens per Lamp: N/A
Luminaire Lumens: 3333.3 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 41.9
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: P1055577

CATALOG NUMBER: S123R3DR-S1165D830-X4F0-XX-UDD-F-W

Luminous Intensity Polar Plot





TEST NUMBER: P1055577

CATALOG NUMBER: S123R3DR-S1165D830-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	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°	22913	22913	22913
5°	22709	22657	22605
10°	22571	21805	21214
15°	22302	20652	19375
20°	21977	19168	17035
25°	21594	17453	14656
30°	21115	15614	12389
35°	20608	13809	10460
40°	20090	12059	8792
45°	19487	10397	7756
50°	18876	8851	7118
55°	18317	7889	6573
60°	17549	7130	6134
65°	16829	6530	5760
70°	15683	6014	5411
75°	14040	5562	5101
80°	12039	5131	4735
85°	8452	4717	4523

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19487 cd/sqm



TEST NUMBER: P1055577

CATALOG NUMBER: S123R3DR-S1165D830-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.2	5.3
10°-20°	466.1	14.0
20°-30°	614.0	18.4
30°-40°	623.2	18.7
40°-50°	541.7	16.3
50°-60°	424.4	12.7
60°-70°	288.3	8.7
70°-80°	156.3	4.7
80°-90°	43.0	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°	1256.3	37.7
0°-40°	1879.5	56.4
0°-60°	2845.6	85.4
0°-90°	3333.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3333.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1900	1900	1900	1900	1900	
5°	1876	1899	1872	1855	1868	178
15°	1787	1761	1655	1574	1552	504
25°	1623	1525	1312	1149	1102	747
35°	1400	1234	938	759	711	876
45°	1143	917	610	470	455	882
55°	871	606	375	320	313	778
65°	590	327	229	205	202	583
75°	301	151	119	111	110	322
85°	61	37	34	31	33	77
90°	0	0	0	0	0	



TEST NUMBER: P1055577

CATALOG NUMBER: S123R3DR-S1165D830-X4F0-XX-UDD-F-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1900.5	1900.5	1900.5	1900.5	1900.5
2.5°	1884.9	1909.1	1890.6	1892.0	1897.7
5°	1876.4	1899.1	1872.1	1855.1	1867.8
7.5°	1863.6	1880.6	1830.9	1803.9	1808.1
10°	1843.7	1849.4	1781.1	1738.5	1732.8
12.5°	1816.7	1806.7	1721.4	1658.9	1648.9
15°	1786.8	1761.2	1654.6	1573.6	1552.3
17.5°	1752.7	1710.1	1576.4	1476.9	1444.2
20°	1712.9	1653.2	1494.0	1367.5	1327.7
22.5°	1670.3	1593.5	1404.4	1255.2	1214.0
25°	1623.3	1525.3	1312.0	1148.6	1101.7
27.5°	1572.2	1457.0	1218.2	1043.4	990.8
30°	1516.7	1386.0	1121.6	941.0	889.9
32.5°	1459.9	1310.6	1029.2	845.8	796.0
35°	1400.2	1233.9	938.2	759.1	710.7
37.5°	1339.1	1155.7	850.1	676.6	631.1
40°	1276.5	1076.1	766.2	599.9	558.6
42.5°	1209.7	996.5	685.2	527.4	496.1
45°	1142.9	916.9	609.8	470.5	454.9
47.5°	1076.1	835.8	538.7	430.7	416.5
50°	1006.4	757.7	471.9	393.8	379.5
52.5°	938.2	680.9	416.5	358.2	348.3
55°	871.4	605.6	375.3	319.8	312.7
57.5°	801.7	531.6	334.1	290.0	281.5
60°	727.8	460.6	295.7	258.7	254.4
62.5°	661.0	393.8	261.6	231.7	227.4
65°	589.9	326.9	228.9	204.7	201.9
67.5°	517.4	271.5	199.0	179.1	177.7
70°	444.9	228.9	170.6	154.9	153.5
72.5°	373.9	189.1	143.6	133.6	130.8
75°	301.4	150.7	119.4	110.9	109.5
77.5°	236.0	116.6	95.2	89.6	88.1
80°	173.4	86.7	73.9	69.7	68.2
82.5°	113.7	59.7	52.6	49.8	49.8
85°	61.1	37.0	34.1	31.3	32.7
87.5°	21.3	15.6	15.6	14.2	15.6
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055577
 CATALOG NUMBER: S123R3DR-S1165D830-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	21.44	22.93	21.80	23.24	23.56	16.59	18.08	16.95	18.39	18.71
	3H	23.33	24.66	23.70	24.99	25.35	18.22	19.55	18.59	19.88	20.24
	4H	24.08	25.34	24.48	25.69	26.07	18.85	20.11	19.25	20.46	20.84
	6H	24.65	25.81	25.06	26.17	26.57	19.34	20.50	19.75	20.87	21.26
	8H	24.82	25.92	25.25	26.31	26.71	19.51	20.62	19.94	21.01	21.41
	12H	24.92	25.97	25.35	26.36	26.78	19.64	20.69	20.07	21.08	21.51
4H	2H	21.48	22.74	21.88	23.09	23.47	17.32	18.57	17.72	18.92	19.30
	3H	23.50	24.55	23.91	24.95	25.35	19.14	20.18	19.55	20.58	20.98
	4H	24.32	25.26	24.75	25.68	26.11	19.88	20.82	20.32	21.24	21.68
	6H	25.00	25.82	25.46	26.26	26.72	20.49	21.31	20.95	21.75	22.21
	8H	25.23	26.00	25.70	26.44	26.91	20.71	21.47	21.17	21.92	22.38
	12H	25.38	26.07	25.87	26.55	27.02	20.88	21.56	21.36	22.04	22.51
8H	4H	24.34	25.11	24.81	25.55	26.02	20.27	21.03	20.73	21.48	21.94
	6H	25.07	25.70	25.57	26.20	26.67	21.00	21.63	21.49	22.12	22.60
	8H	25.34	25.91	25.86	26.42	26.91	21.28	21.85	21.80	22.36	22.85
	12H	25.55	26.05	26.06	26.54	27.11	21.53	22.03	22.04	22.52	23.09
12H	4H	24.33	25.01	24.81	25.49	25.96	20.32	21.00	20.80	21.48	21.95
	6H	25.06	25.62	25.57	26.13	26.62	21.08	21.64	21.59	22.15	22.64
	8H	25.36	25.86	25.87	26.35	26.92	21.43	21.93	21.94	22.42	22.98