

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: P1055581

Luminaire Tested: S123R3DR-S1165D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055581
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S1165D840-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

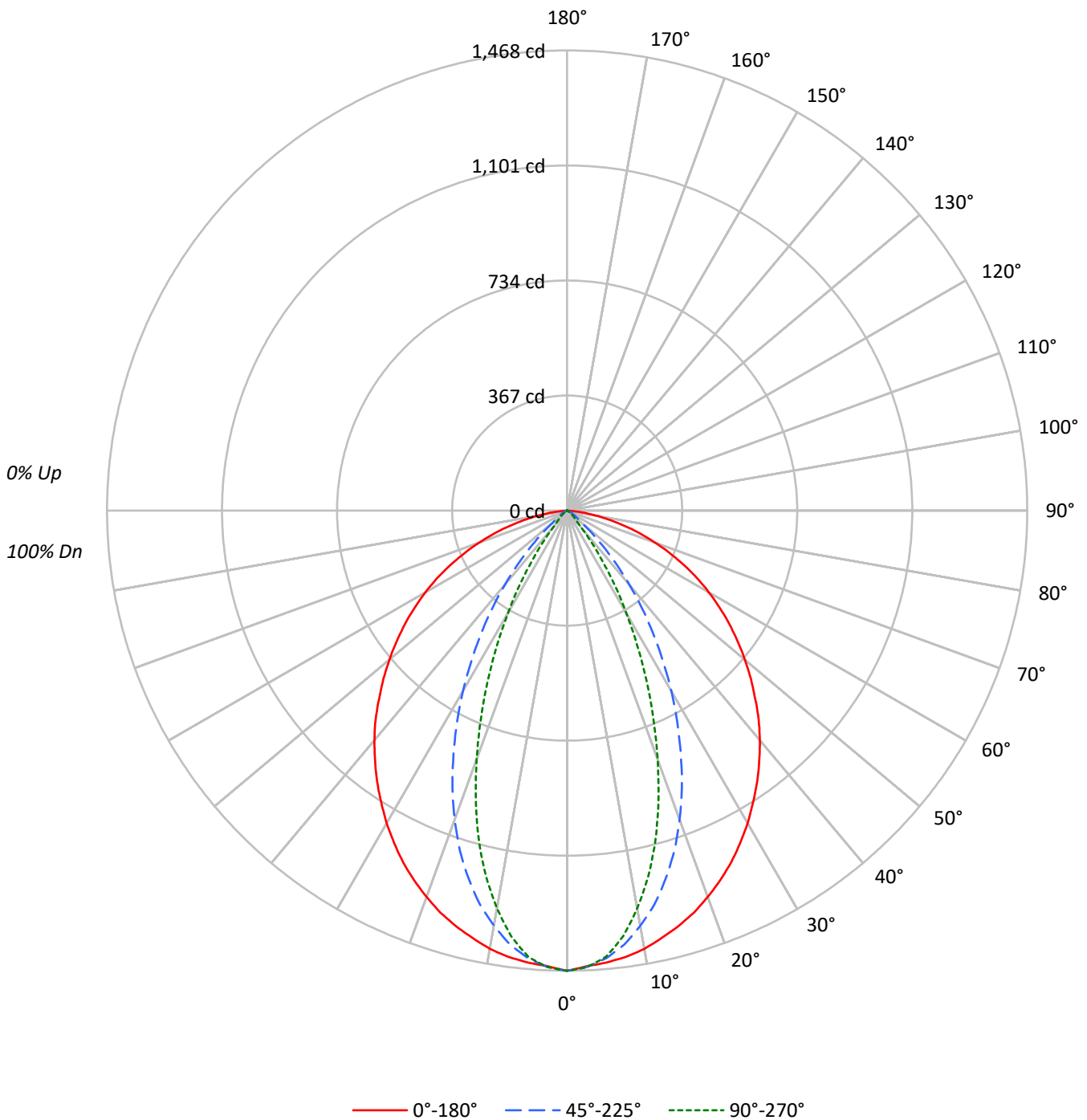
Lumens per Lamp: N/A
Luminaire Lumens: 1718.3 lumens
Efficiency: N/A
Efficacy: 41.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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: P1055581

CATALOG NUMBER: S123R3DR-S1165D840-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	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	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90					90			
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81					81			
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73					73			
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65					65			
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59					59			
6	81	70	63	58	79	69	62	57	67	61	57	66	61	56	64	60	56	54					54			
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50					50			
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46					46			
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43					43			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40					40			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17701	17701	17701
5°	17511	17345	17290
10°	17378	16464	15774
15°	17127	15170	13593
20°	16824	13464	10826
25°	16471	11407	7983
30°	16029	9244	5237
35°	15557	7038	2869
40°	15054	4866	982
45°	14464	2830	571
50°	13884	1114	343
55°	13287	704	160
60°	12597	441	72
65°	11731	217	43
70°	10522	106	53
75°	8939	70	70
80°	6665	104	0
85°	2531	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14464 cd/sqm



TEST NUMBER: P1055581

CATALOG NUMBER: S123R3DR-S1165D840-X4F0-XX-UDD-F-B

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.6	7.8
10°-20°	341.6	19.9
20°-30°	407.5	23.7
30°-40°	345.6	20.1
40°-50°	234.9	13.7
50°-60°	145.6	8.5
60°-70°	73.7	4.3
70°-80°	30.1	1.7
80°-90°	4.6	0.3
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°	883.7	51.4
0°-40°	1229.4	71.5
0°-60°	1609.9	93.7
0°-90°	1718.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1718.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1468	1468	1468	1468	1468	
5°	1447	1461	1433	1422	1429	137
15°	1372	1337	1215	1119	1089	387
25°	1238	1122	858	662	600	570
35°	1057	848	478	257	195	661
45°	848	556	166	41	34	655
55°	632	280	34	12	8	565
65°	411	68	8	2	2	406
75°	192	12	2	2	2	204
85°	18	0	0	2	0	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1468.2	1468.2	1468.2	1468.2	1468.2
2.5°	1454.5	1474.3	1457.5	1456.0	1457.5
5°	1446.9	1460.6	1433.2	1422.5	1428.6
7.5°	1436.2	1442.3	1396.6	1369.2	1369.2
10°	1419.5	1414.9	1344.8	1299.1	1288.5
12.5°	1396.6	1378.3	1287.0	1215.4	1195.6
15°	1372.2	1337.2	1215.4	1119.4	1089.0
17.5°	1344.8	1291.5	1137.7	1012.8	968.6
20°	1311.3	1239.7	1049.4	897.1	843.8
22.5°	1276.3	1183.4	956.5	778.3	718.9
25°	1238.2	1122.5	857.5	662.5	600.1
27.5°	1195.6	1058.5	760.0	551.3	482.8
30°	1151.4	991.5	664.0	444.7	376.2
32.5°	1104.2	921.4	568.1	347.3	283.3
35°	1057.0	848.3	478.2	257.4	194.9
37.5°	1006.7	775.2	391.4	178.2	123.4
40°	956.5	703.6	309.2	112.7	62.4
42.5°	904.7	629.0	234.5	56.4	42.6
45°	848.3	555.9	166.0	41.1	33.5
47.5°	795.0	485.8	109.7	33.5	25.9
50°	740.2	415.8	59.4	24.4	18.3
52.5°	685.4	348.8	42.6	18.3	12.2
55°	632.1	280.2	33.5	12.2	7.6
57.5°	577.2	220.8	25.9	7.6	4.6
60°	522.4	163.0	18.3	4.6	3.0
62.5°	467.6	112.7	12.2	3.0	1.5
65°	411.2	68.5	7.6	1.5	1.5
67.5°	353.3	47.2	4.6	1.5	1.5
70°	298.5	33.5	3.0	1.5	1.5
72.5°	243.7	21.3	1.5	1.5	0.0
75°	191.9	12.2	1.5	1.5	1.5
77.5°	141.6	4.6	1.5	1.5	0.0
80°	96.0	1.5	1.5	1.5	0.0
82.5°	53.3	0.0	1.5	1.5	0.0
85°	18.3	0.0	0.0	1.5	0.0
87.5°	0.0	0.0	0.0	1.5	0.0
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1055581
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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	19.03	20.31	19.40	20.62	20.94	0.00	0.00	0.00	0.00	0.00
	3H	20.98	22.11	21.36	22.44	22.81	0.00	0.00	0.00	0.00	0.00
	4H	21.80	22.86	22.21	23.21	23.59	0.00	0.00	0.00	0.00	0.00
	6H	22.36	23.33	22.77	23.70	24.09	0.00	0.00	0.00	0.00	0.00
	8H	22.48	23.40	22.91	23.79	24.20	0.00	0.00	0.00	0.00	0.00
	12H	22.51	23.38	22.94	23.77	24.20	0.00	0.00	0.00	0.00	0.00
4H	2H	18.79	19.85	19.20	20.20	20.59	0.00	0.00	0.00	0.00	0.00
	3H	20.75	21.61	21.16	22.01	22.42	0.00	0.00	0.00	0.00	0.00
	4H	21.56	22.33	22.00	22.75	23.20	0.00	0.00	0.00	0.00	0.00
	6H	22.16	22.83	22.63	23.27	23.74	0.00	0.00	0.00	0.00	0.00
	8H	22.31	22.93	22.79	23.38	23.85	0.00	0.00	0.00	0.00	0.00
	12H	22.36	22.91	22.85	23.39	23.86	0.00	0.00	0.00	0.00	0.00
8H	4H	21.42	22.04	21.89	22.48	22.96	0.00	0.00	0.00	0.00	0.00
	6H	22.00	22.50	22.50	23.00	23.48	0.00	0.00	0.00	0.00	0.00
	8H	22.15	22.60	22.67	23.12	23.61	0.00	0.00	0.00	0.00	0.00
	12H	22.21	22.60	22.72	23.10	23.67	0.00	0.00	0.00	0.00	0.00
12H	4H	21.37	21.91	21.86	22.40	22.87	0.00	0.00	0.00	0.00	0.00
	6H	21.94	22.39	22.46	22.90	23.40	0.00	0.00	0.00	0.00	0.06
	8H	22.11	22.50	22.62	23.00	23.57	0.00	0.00	0.00	0.00	0.23