

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: P1055802

Luminaire Tested: S123R3DR-H775D850-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055802
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-H775D850-X4F0-XX-UDD-F-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

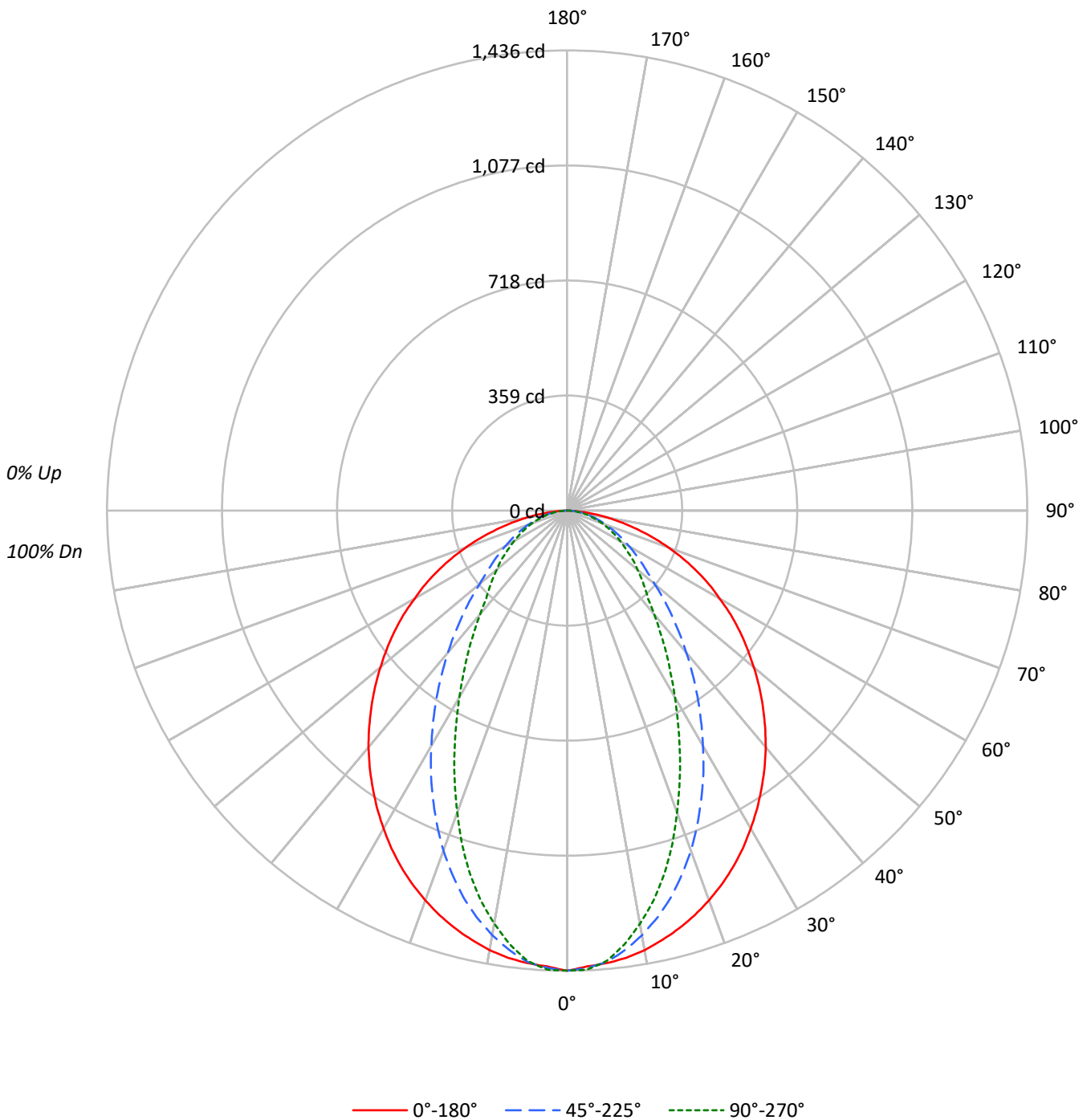
Lumens per Lamp: N/A
Luminaire Lumens: 2518.2 lumens
Efficiency: N/A
Efficacy: 105.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P1055802

CATALOG NUMBER: S123R3DR-H775D850-X4F0-XX-UDD-F-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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17311	17311	17311
5°	17156	17118	17078
10°	17052	16473	16027
15°	16849	15602	14637
20°	16604	14481	12869
25°	16315	13186	11072
30°	15953	11796	9359
35°	15569	10432	7904
40°	15178	9109	6643
45°	14721	7855	5860
50°	14261	6687	5377
55°	13837	5959	4967
60°	13257	5387	4634
65°	12715	4932	4351
70°	11848	4544	4089
75°	10607	4202	3852
80°	9095	3874	3576
85°	6391	3569	3417

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 14721 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.1	5.3
10°-20°	352.1	14.0
20°-30°	463.9	18.4
30°-40°	470.8	18.7
40°-50°	409.2	16.3
50°-60°	320.6	12.7
60°-70°	217.8	8.7
70°-80°	118.1	4.7
80°-90°	32.5	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°	949.1	37.7
0°-40°	1419.9	56.4
0°-60°	2149.8	85.4
0°-90°	2518.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2518.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1436	1436	1436	1436	1436	
5°	1418	1435	1414	1402	1411	135
15°	1350	1331	1250	1189	1173	381
25°	1226	1152	991	868	832	565
35°	1058	932	709	574	537	662
45°	863	693	461	356	344	666
55°	658	458	284	242	236	588
65°	446	247	173	155	152	440
75°	228	114	90	84	83	243
85°	46	28	26	24	25	58
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1435.8	1435.8	1435.8	1435.8	1435.8
2.5°	1424.0	1442.3	1428.3	1429.4	1433.7
5°	1417.6	1434.8	1414.4	1401.5	1411.1
7.5°	1407.9	1420.8	1383.2	1362.8	1366.0
10°	1392.9	1397.2	1345.6	1313.4	1309.1
12.5°	1372.5	1365.0	1300.5	1253.3	1245.7
15°	1349.9	1330.6	1250.0	1188.8	1172.7
17.5°	1324.1	1291.9	1191.0	1115.8	1091.1
20°	1294.1	1249.0	1128.7	1033.1	1003.0
22.5°	1261.9	1203.9	1061.0	948.3	917.1
25°	1226.4	1152.3	991.2	867.7	832.3
27.5°	1187.8	1100.8	920.4	788.3	748.5
30°	1145.9	1047.1	847.3	710.9	672.3
32.5°	1102.9	990.2	777.5	639.0	601.4
35°	1057.8	932.2	708.8	573.5	537.0
37.5°	1011.6	873.1	642.2	511.2	476.8
40°	964.4	813.0	578.8	453.2	422.1
42.5°	913.9	752.8	517.6	398.4	374.8
45°	863.4	692.7	460.7	355.5	343.7
47.5°	813.0	631.5	407.0	325.4	314.7
50°	760.3	572.4	356.5	297.5	286.7
52.5°	708.8	514.4	314.7	270.6	263.1
55°	658.3	457.5	283.5	241.6	236.3
57.5°	605.7	401.6	252.4	219.1	212.6
60°	549.8	348.0	223.4	195.5	192.2
62.5°	499.4	297.5	197.6	175.0	171.8
65°	445.7	247.0	172.9	154.6	152.5
67.5°	390.9	205.1	150.3	135.3	134.2
70°	336.1	172.9	128.9	117.1	116.0
72.5°	282.4	142.8	108.5	100.9	98.8
75°	227.7	113.8	90.2	83.8	82.7
77.5°	178.3	88.1	72.0	67.7	66.6
80°	131.0	65.5	55.8	52.6	51.5
82.5°	85.9	45.1	39.7	37.6	37.6
85°	46.2	27.9	25.8	23.6	24.7
87.5°	16.1	11.8	11.8	10.7	11.8
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	20.46	21.96	20.83	22.27	22.58	15.61	17.11	15.98	17.42	17.73
	3H	22.35	23.69	22.73	24.02	24.38	17.24	18.58	17.62	18.91	19.27
	4H	23.11	24.36	23.51	24.71	25.09	17.88	19.13	18.28	19.48	19.86
	6H	23.67	24.83	24.08	25.20	25.59	18.37	19.53	18.78	19.90	20.29
	8H	23.84	24.95	24.27	25.34	25.74	18.54	19.64	18.97	20.03	20.43
	12H	23.94	25.00	24.37	25.38	25.81	18.66	19.72	19.09	20.10	20.53
4H	2H	20.51	21.77	20.91	22.12	22.49	16.34	17.60	16.74	17.95	18.33
	3H	22.53	23.57	22.94	23.97	24.37	18.16	19.21	18.57	19.61	20.01
	4H	23.34	24.28	23.78	24.70	25.14	18.91	19.85	19.34	20.27	20.70
	6H	24.03	24.85	24.49	25.29	25.75	19.52	20.34	19.98	20.78	21.24
	8H	24.26	25.02	24.72	25.47	25.93	19.73	20.50	20.20	20.94	21.41
	12H	24.41	25.09	24.89	25.57	26.04	19.90	20.58	20.38	21.06	21.53
8H	4H	23.37	24.13	23.83	24.58	25.05	19.29	20.06	19.76	20.50	20.97
	6H	24.10	24.73	24.60	25.22	25.70	20.02	20.65	20.52	21.14	21.62
	8H	24.37	24.93	24.88	25.44	25.93	20.31	20.87	20.82	21.39	21.87
	12H	24.58	25.08	25.09	25.57	26.13	20.55	21.05	21.06	21.55	22.11
12H	4H	23.35	24.04	23.84	24.52	24.99	19.35	20.03	19.83	20.51	20.98
	6H	24.08	24.65	24.60	25.16	25.65	20.10	20.67	20.62	21.18	21.67
	8H	24.39	24.89	24.90	25.38	25.95	20.45	20.95	20.96	21.44	22.01