

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: P1439770

Luminaire Tested: S123DR-H290D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439770
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G3-2603-719-3)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DR-H290D835-X4F0-XX-UDD-FLB-W
Description: DEFINE 3, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

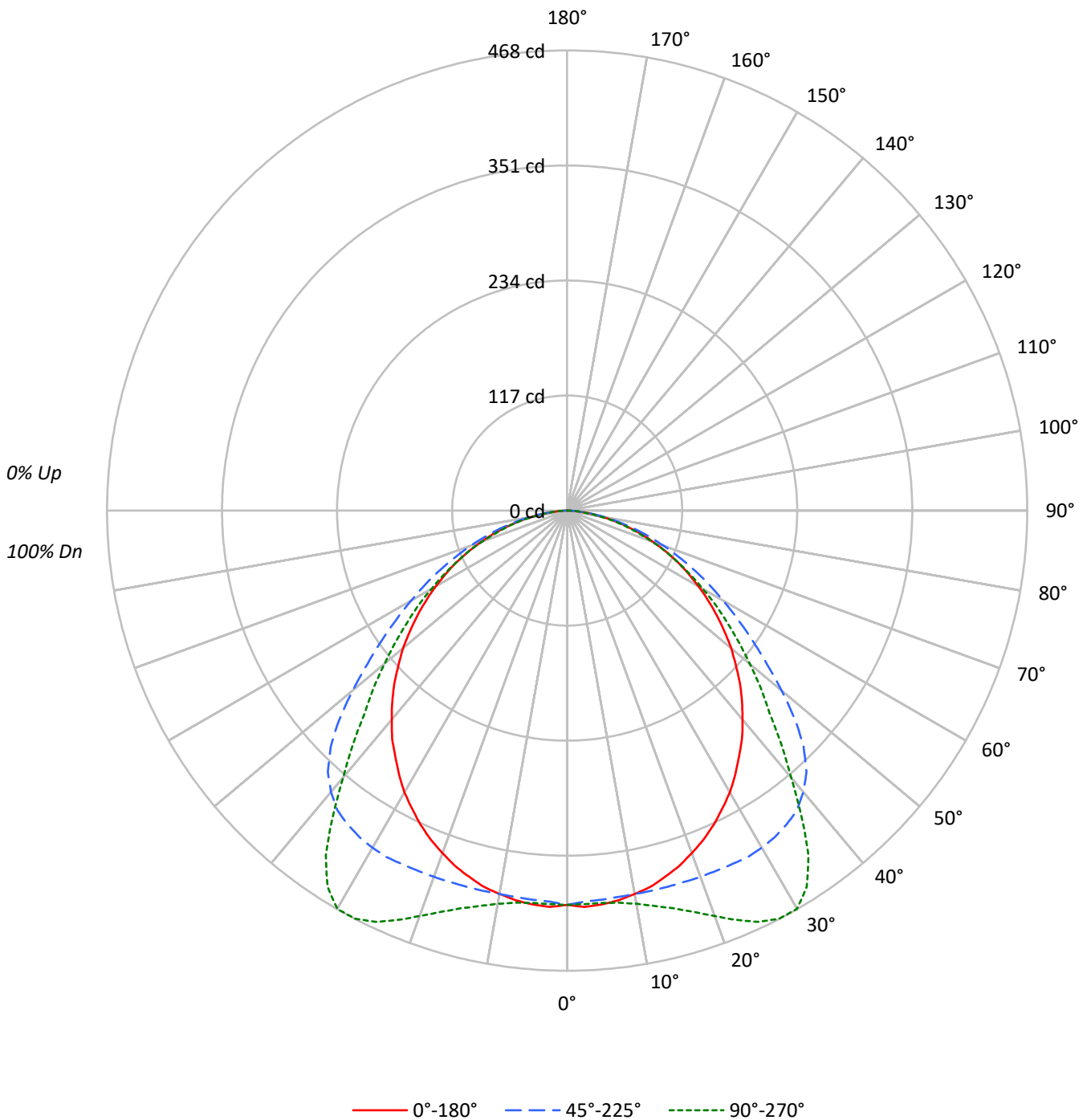
Lumens per Lamp: N/A
Luminaire Lumens: 1212.8 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.52 / 1.52
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
Input Voltage (V): 120
Input Current (A_{in}): 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: P1439770

CATALOG NUMBER: S123DR-H290D835-X4F0-XX-UDD-FLB-W

Luminous Intensity Polar Plot



TEST NUMBER: P1439770

CATALOG NUMBER: S123DR-H290D835-X4F0-XX-UDD-FLB-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	109	105	100	97	106	102	99	95	98	95	92	94	92	89	91	89	87	85					85			
2	100	92	85	79	97	90	84	78	86	81	77	83	79	75	80	76	73	71					71			
3	91	81	73	66	88	79	72	66	76	70	65	73	68	63	71	66	62	60					60			
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	52					52			
5	77	64	55	49	75	63	54	48	61	53	48	59	52	47	57	51	47	45					45			
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39					39			
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34					34			
8	61	48	39	33	59	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28					28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4835	4835	4835
5°	4868	4808	4848
10°	4848	4848	4970
15°	4813	4943	5227
20°	4756	5086	5629
25°	4689	5279	6139
30°	4607	5513	6511
35°	4486	5731	6298
40°	4366	5880	5573
45°	4235	5797	4963
50°	4083	5336	4543
55°	3905	4828	4175
60°	3721	4420	3839
65°	3537	4045	3549
70°	3275	3670	3215
75°	2953	3265	2879
80°	2479	2736	2361
85°	1895	2006	1784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 5797 cd/sqm



TEST NUMBER: P1439770

CATALOG NUMBER: S123DR-H290D835-X4F0-XX-UDD-FLB-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	3.1
10°-20°	113.5	9.4
20°-30°	185.9	15.3
30°-40°	235.2	19.4
40°-50°	229.8	18.9
50°-60°	188.8	15.6
60°-70°	133.2	11.0
70°-80°	71.0	5.9
80°-90°	17.3	1.4
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°	337.6	27.8
0°-40°	572.8	47.2
0°-60°	991.4	81.7
0°-90°	1212.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1212.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	401	401	401	401	401	
5°	402	401	397	401	401	38
15°	386	388	396	414	419	109
25°	352	363	397	445	462	162
35°	305	326	389	435	428	191
45°	248	277	340	307	291	191
55°	186	214	230	206	199	166
65°	124	142	142	129	124	122
75°	63	71	70	63	62	67
85°	14	15	14	13	13	17
90°	0	0	0	0	0	



TEST NUMBER: P1439770

CATALOG NUMBER: S123DR-H290D835-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	401.0	401.0	401.0	401.0	401.0
2.5°	403.5	402.2	398.1	401.8	400.6
5°	402.2	400.6	397.3	401.4	400.6
7.5°	399.7	398.9	396.4	402.6	402.2
10°	396.0	395.6	396.0	405.1	406.0
12.5°	391.9	392.3	396.0	408.9	411.8
15°	385.6	387.7	396.0	413.8	418.8
17.5°	379.0	382.3	396.0	420.5	427.9
20°	370.7	376.5	396.4	427.5	438.7
22.5°	362.4	369.5	396.4	437.1	450.7
25°	352.5	362.8	396.8	444.9	461.5
27.5°	341.7	354.1	397.3	451.2	467.7
30°	330.9	345.8	396.0	453.6	467.7
32.5°	318.1	336.3	393.5	449.5	453.6
35°	304.8	325.9	389.4	434.6	427.9
37.5°	292.3	314.7	384.0	407.2	391.4
40°	277.4	302.7	373.6	372.4	354.1
42.5°	263.3	289.9	360.3	337.1	322.2
45°	248.4	276.6	340.0	306.9	291.1
47.5°	232.6	262.1	314.3	278.2	267.0
50°	217.7	247.1	284.5	252.1	242.2
52.5°	201.5	231.4	255.9	228.9	220.2
55°	185.8	213.6	229.7	206.5	198.6
57.5°	170.0	196.1	205.7	185.4	179.1
60°	154.3	177.9	183.3	165.9	159.2
62.5°	138.9	160.9	162.6	147.2	141.4
65°	124.0	141.8	141.8	129.4	124.4
67.5°	108.2	123.6	122.7	111.1	108.2
70°	92.9	105.7	104.1	94.5	91.2
72.5°	78.4	87.9	86.7	79.2	75.5
75°	63.4	71.3	70.1	63.4	61.8
77.5°	49.3	54.7	53.5	48.9	47.7
80°	35.7	39.8	39.4	36.1	34.0
82.5°	24.1	26.1	25.7	23.6	22.4
85°	13.7	14.9	14.5	13.3	12.9
87.5°	5.4	6.2	6.6	6.2	5.8
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P1439770
 CATALOG NUMBER: S123DR-H290D835-X4F0-XX-UDD-FLB-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	17.11	18.72	17.48	19.03	19.34	16.84	18.45	17.21	18.76	19.07
	3H	18.68	20.13	19.06	20.46	20.82	18.36	19.80	18.73	20.13	20.49
	4H	19.23	20.59	19.63	20.94	21.32	18.89	20.25	19.29	20.60	20.97
	6H	19.60	20.86	20.01	21.22	21.61	19.25	20.51	19.66	20.87	21.26
	8H	19.70	20.90	20.12	21.29	21.69	19.34	20.54	19.77	20.93	21.33
	12H	19.75	20.90	20.18	21.28	21.71	19.39	20.54	19.82	20.93	21.35
4H	2H	17.75	19.11	18.15	19.46	19.83	17.54	18.90	17.94	19.25	19.62
	3H	19.56	20.69	19.97	21.09	21.49	19.25	20.39	19.66	20.79	21.19
	4H	20.25	21.27	20.68	21.68	22.12	19.89	20.91	20.32	21.33	21.77
	6H	20.73	21.62	21.18	22.06	22.52	20.35	21.24	20.81	21.68	22.14
	8H	20.86	21.70	21.32	22.14	22.60	20.48	21.31	20.94	21.75	22.22
	12H	20.95	21.69	21.43	22.17	22.64	20.56	21.31	21.04	21.78	22.25
8H	4H	20.51	21.35	20.97	21.79	22.25	20.20	21.03	20.66	21.48	21.94
	6H	21.10	21.79	21.60	22.28	22.76	20.76	21.45	21.25	21.94	22.42
	8H	21.30	21.92	21.81	22.42	22.91	20.94	21.56	21.45	22.07	22.55
	12H	21.44	21.99	21.94	22.48	23.04	21.07	21.62	21.58	22.11	22.67
12H	4H	20.53	21.28	21.01	21.75	22.22	20.23	20.97	20.71	21.45	21.92
	6H	21.13	21.76	21.64	22.26	22.75	20.80	21.43	21.31	21.93	22.42
	8H	21.38	21.93	21.88	22.42	22.98	21.03	21.58	21.54	22.07	22.63