

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: P243306

Luminaire Tested: S123DRP-H340D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243306  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-H340D935-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

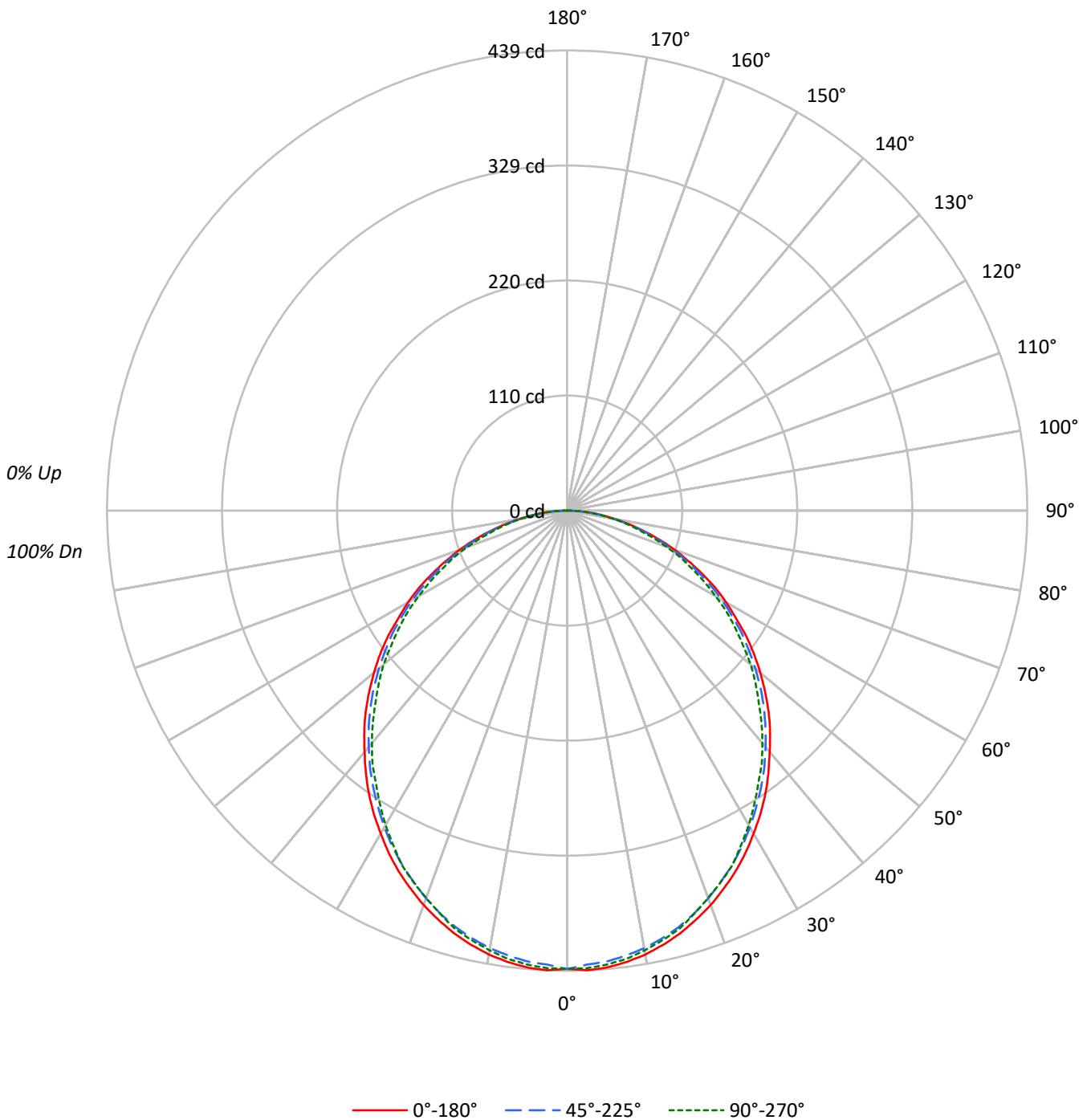
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1156.6 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.2  
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

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### 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	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5299	5299	5299
5°	5325	5254	5289
10°	5293	5217	5243
15°	5238	5161	5184
20°	5166	5077	5072
25°	5081	4985	4990
30°	4980	4883	4848
35°	4880	4774	4704
40°	4756	4660	4586
45°	4659	4548	4429
50°	4533	4418	4309
55°	4402	4288	4144
60°	4247	4133	3966
65°	4064	3938	3774
70°	3859	3728	3576
75°	3578	3480	3292
80°	3218	3148	3043
85°	3004	2851	2754

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4659 cd/sqm



TEST NUMBER: P243306

CATALOG NUMBER: S123DRP-H340D935-X4F0-XX-UDD-F-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.2	3.6
10°-20°	116.6	10.1
20°-30°	172.7	14.9
30°-40°	202.5	17.5
40°-50°	204.8	17.7
50°-60°	181.1	15.7
60°-70°	136.0	11.8
70°-80°	78.4	6.8
80°-90°	23.3	2.0
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°	330.6	28.6
0°-40°	533.1	46.1
0°-60°	919.0	79.5
0°-90°	1156.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1156.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	437	437	437	437	437	
5°	438	436	432	435	435	42
15°	417	415	411	414	413	118
25°	380	377	373	374	373	175
35°	330	327	323	322	318	206
45°	272	270	265	262	258	209
55°	208	207	203	199	196	186
65°	142	141	137	134	132	140
75°	76	76	74	72	70	81
85°	22	21	20	20	20	24
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	437.2	437.2	437.2	437.2	437.2
2.5°	439.0	437.6	433.6	437.6	436.9
5°	437.6	435.8	431.8	435.4	434.7
7.5°	434.3	432.5	428.2	432.2	431.4
10°	430.0	428.2	423.9	427.1	426.0
12.5°	424.2	422.4	418.1	420.6	419.9
15°	417.4	415.2	411.3	414.1	413.1
17.5°	409.1	407.3	403.0	406.6	403.3
20°	400.5	398.6	393.6	396.8	393.2
22.5°	390.4	388.2	383.1	385.3	383.5
25°	379.9	377.0	372.7	374.5	373.1
27.5°	368.4	365.5	361.2	361.9	359.4
30°	355.8	353.2	348.9	349.6	346.4
32.5°	343.1	341.0	335.6	335.6	332.3
35°	329.8	326.9	322.6	321.5	317.9
37.5°	315.4	312.9	308.9	307.1	304.9
40°	300.6	299.2	294.5	292.3	289.8
42.5°	286.6	284.0	280.1	277.2	274.3
45°	271.8	269.6	265.3	261.7	258.4
47.5°	256.3	254.5	250.1	246.2	243.7
50°	240.4	239.0	234.3	230.0	228.5
52.5°	224.9	223.1	218.4	214.5	211.6
55°	208.3	206.9	202.9	199.0	196.1
57.5°	190.7	190.7	186.3	182.7	180.6
60°	175.2	173.4	170.5	166.5	163.6
62.5°	159.0	157.9	153.9	149.9	147.8
65°	141.7	140.6	137.3	133.7	131.6
67.5°	124.7	124.4	121.5	118.6	117.1
70°	108.9	108.1	105.2	102.4	100.9
72.5°	92.6	91.9	89.4	86.9	85.1
75°	76.4	75.7	74.3	72.1	70.3
77.5°	60.6	60.6	58.8	58.0	57.3
80°	46.1	45.8	45.1	44.3	43.6
82.5°	33.2	32.8	32.1	31.7	31.7
85°	21.6	21.3	20.5	20.2	19.8
87.5°	11.2	10.5	10.1	9.4	9.0
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P243306

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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	17.25	18.87	17.61	19.19	19.50	16.93	18.56	17.30	18.87	19.19
	3H	19.04	20.51	19.42	20.84	21.20	18.69	20.16	19.07	20.49	20.85
	4H	19.72	21.10	20.12	21.45	21.83	19.34	20.72	19.74	21.07	21.45
	6H	20.22	21.50	20.63	21.87	22.26	19.84	21.12	20.25	21.49	21.88
	8H	20.38	21.61	20.81	22.00	22.40	20.01	21.24	20.43	21.62	22.02
	12H	20.51	21.68	20.94	22.07	22.49	20.13	21.30	20.56	21.69	22.12
4H	2H	17.84	19.22	18.23	19.57	19.94	17.59	18.97	17.99	19.32	19.70
	3H	19.86	21.02	20.27	21.42	21.82	19.56	20.73	19.97	21.12	21.52
	4H	20.67	21.72	21.10	22.13	22.57	20.34	21.39	20.77	21.81	22.24
	6H	21.30	22.22	21.75	22.66	23.12	20.97	21.89	21.43	22.33	22.79
	8H	21.52	22.38	21.98	22.82	23.29	21.19	22.05	21.65	22.50	22.96
	12H	21.69	22.47	22.17	22.94	23.41	21.36	22.13	21.84	22.61	23.08
8H	4H	20.97	21.83	21.43	22.27	22.73	20.68	21.54	21.14	21.98	22.44
	6H	21.72	22.44	22.21	22.92	23.40	21.43	22.15	21.93	22.64	23.11
	8H	22.02	22.66	22.53	23.17	23.65	21.73	22.37	22.24	22.88	23.37
	12H	22.28	22.84	22.78	23.33	23.90	21.98	22.55	22.49	23.04	23.60
12H	4H	21.00	21.77	21.48	22.25	22.71	20.72	21.49	21.20	21.97	22.43
	6H	21.78	22.42	22.28	22.93	23.41	21.50	22.14	22.01	22.65	23.13
	8H	22.13	22.70	22.64	23.19	23.75	21.86	22.43	22.36	22.92	23.48