

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: P242422

Luminaire Tested: S123DRP-S340D927-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242422  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S340D927-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: -

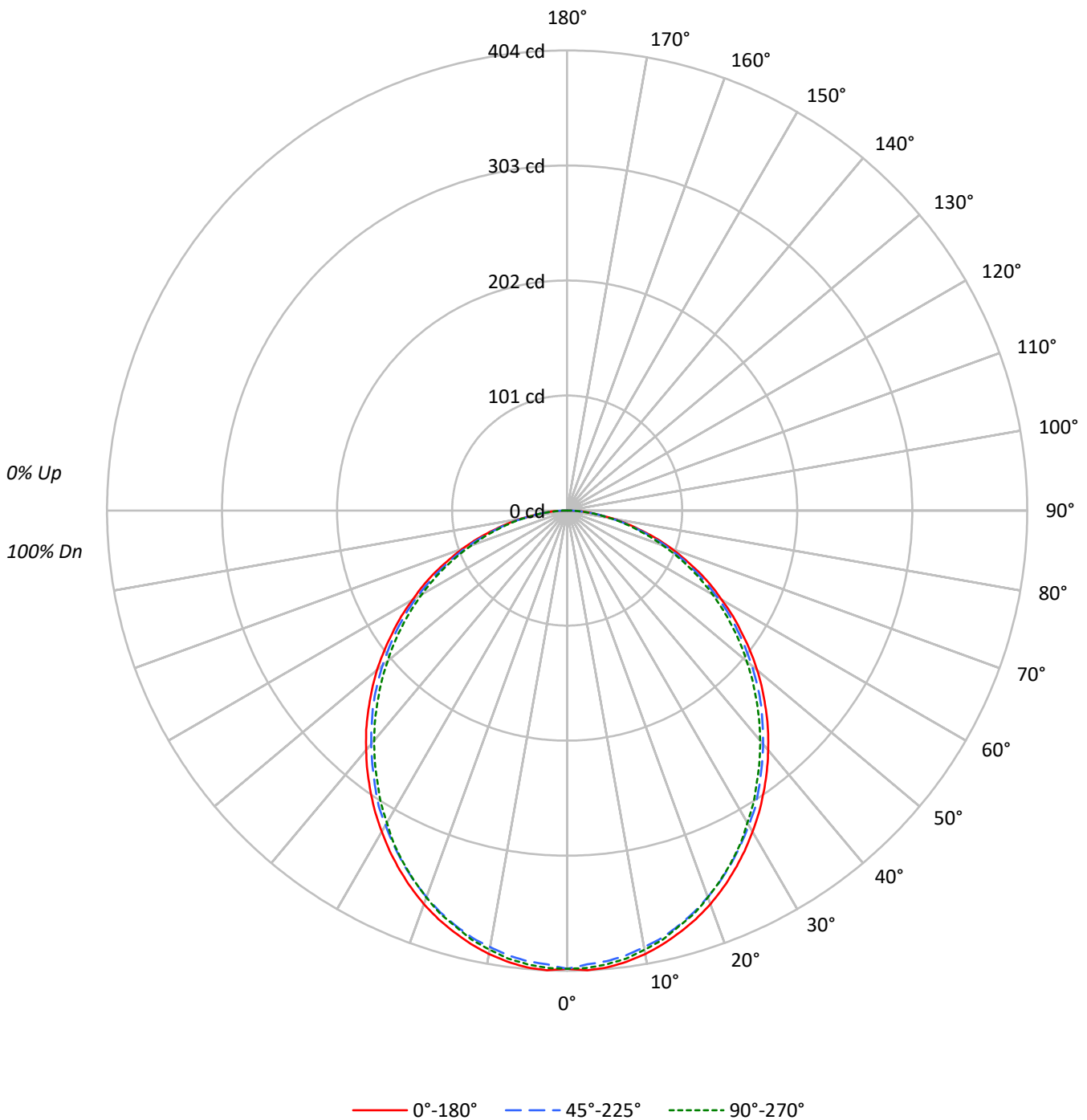
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1046.9 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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					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	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84					84			
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70					70			
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59					59			
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51					51			
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44					44			
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	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	60	47	39	33	46	38	33	44	38	33	43	37	33	31					31			
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28					28			
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25					25			

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

	0°	45°	90°
0°	4876	4876	4876
5°	4899	4832	4865
10°	4865	4789	4819
15°	4809	4736	4745
20°	4743	4658	4662
25°	4654	4566	4557
30°	4556	4463	4430
35°	4453	4355	4299
40°	4345	4236	4171
45°	4227	4126	4027
50°	4109	3992	3881
55°	3954	3852	3734
60°	3799	3690	3571
65°	3660	3511	3402
70°	3455	3310	3161
75°	3157	3044	2918
80°	2848	2729	2701
85°	2503	2406	2309

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4227 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.9	3.6
10°-20°	107.1	10.2
20°-30°	158.1	15.1
30°-40°	184.7	17.6
40°-50°	185.7	17.7
50°-60°	163.1	15.6
60°-70°	121.5	11.6
70°-80°	69.1	6.6
80°-90°	19.7	1.9
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°	303.2	29.0
0°-40°	487.9	46.6
0°-60°	836.7	79.9
0°-90°	1046.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1046.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	402	402	402	402	402	
5°	403	401	397	400	400	38
15°	383	382	377	380	378	108
25°	348	346	341	342	341	160
35°	301	299	294	292	290	188
45°	247	245	241	237	235	190
55°	187	187	182	178	177	168
65°	128	126	122	120	119	126
75°	67	66	65	63	62	72
85°	18	17	17	17	17	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	402.3	402.3	402.3	402.3	402.3
2.5°	404.0	402.6	398.8	402.3	401.9
5°	402.6	400.9	397.1	400.5	399.8
7.5°	399.5	397.8	394.0	397.1	396.7
10°	395.3	393.6	389.1	392.2	391.5
12.5°	389.8	388.4	384.3	386.4	386.0
15°	383.2	381.9	377.4	380.1	378.1
17.5°	376.0	374.2	369.8	371.8	371.1
20°	367.7	365.6	361.1	362.5	361.4
22.5°	358.3	356.3	351.8	352.8	351.4
25°	348.0	345.9	341.4	341.7	340.7
27.5°	337.2	335.2	330.3	330.7	329.6
30°	325.5	323.7	318.9	318.9	316.5
32.5°	313.7	311.3	307.8	305.4	304.4
35°	300.9	298.8	294.3	292.3	290.5
37.5°	288.1	285.4	280.9	278.4	277.4
40°	274.6	272.6	267.7	264.9	263.6
42.5°	261.1	258.7	253.9	251.1	249.7
45°	246.6	245.2	240.7	236.6	234.9
47.5°	232.4	230.4	226.2	222.1	220.7
50°	217.9	216.2	211.7	207.9	205.8
52.5°	202.7	201.7	196.8	193.7	191.6
55°	187.1	186.8	182.3	178.5	176.7
57.5°	172.6	171.2	167.8	164.3	162.2
60°	156.7	156.3	152.2	149.1	147.3
62.5°	142.5	141.5	137.3	134.2	133.2
65°	127.6	125.9	122.4	119.7	118.6
67.5°	111.7	110.3	107.6	105.1	103.8
70°	97.5	95.5	93.4	91.0	89.2
72.5°	82.7	81.3	78.9	76.8	76.1
75°	67.4	66.1	65.0	63.3	62.3
77.5°	54.0	53.3	51.9	50.5	50.5
80°	40.8	39.8	39.1	38.7	38.7
82.5°	28.0	28.0	28.0	27.3	27.0
85°	18.0	17.3	17.3	16.6	16.6
87.5°	9.0	8.0	7.6	7.3	7.3
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	16.86	18.48	17.23	18.79	19.11	16.55	18.17	16.91	18.48	18.79
	3H	18.63	20.09	19.01	20.42	20.78	18.26	19.73	18.64	20.05	20.41
	4H	19.29	20.67	19.69	21.01	21.39	18.90	20.28	19.30	20.63	21.00
	6H	19.78	21.05	20.19	21.42	21.81	19.39	20.66	19.80	21.03	21.42
	8H	19.93	21.15	20.36	21.54	21.94	19.55	20.77	19.97	21.15	21.55
	12H	20.04	21.21	20.47	21.59	22.02	19.65	20.82	20.08	21.20	21.63
4H	2H	17.44	18.82	17.84	19.17	19.54	17.19	18.57	17.59	18.92	19.29
	3H	19.43	20.59	19.84	20.99	21.39	19.13	20.28	19.54	20.68	21.08
	4H	20.22	21.26	20.65	21.68	22.11	19.89	20.93	20.32	21.35	21.78
	6H	20.84	21.75	21.29	22.19	22.65	20.50	21.41	20.96	21.86	22.31
	8H	21.04	21.89	21.50	22.33	22.80	20.71	21.56	21.17	22.00	22.47
	12H	21.19	21.96	21.67	22.43	22.90	20.86	21.63	21.34	22.10	22.57
8H	4H	20.50	21.36	20.96	21.80	22.26	20.21	21.07	20.67	21.51	21.97
	6H	21.24	21.95	21.73	22.44	22.91	20.95	21.66	21.44	22.14	22.62
	8H	21.52	22.15	22.02	22.66	23.14	21.23	21.86	21.74	22.37	22.86
	12H	21.74	22.31	22.25	22.80	23.36	21.45	22.01	21.96	22.50	23.07
12H	4H	20.53	21.30	21.01	21.78	22.24	20.25	21.02	20.73	21.49	21.96
	6H	21.29	21.93	21.80	22.44	22.92	21.01	21.65	21.52	22.15	22.64
	8H	21.62	22.19	22.13	22.68	23.24	21.35	21.91	21.85	22.40	22.96