

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: P242450

Luminaire Tested: S123DRP-S1165D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242450  
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-S1165D935-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

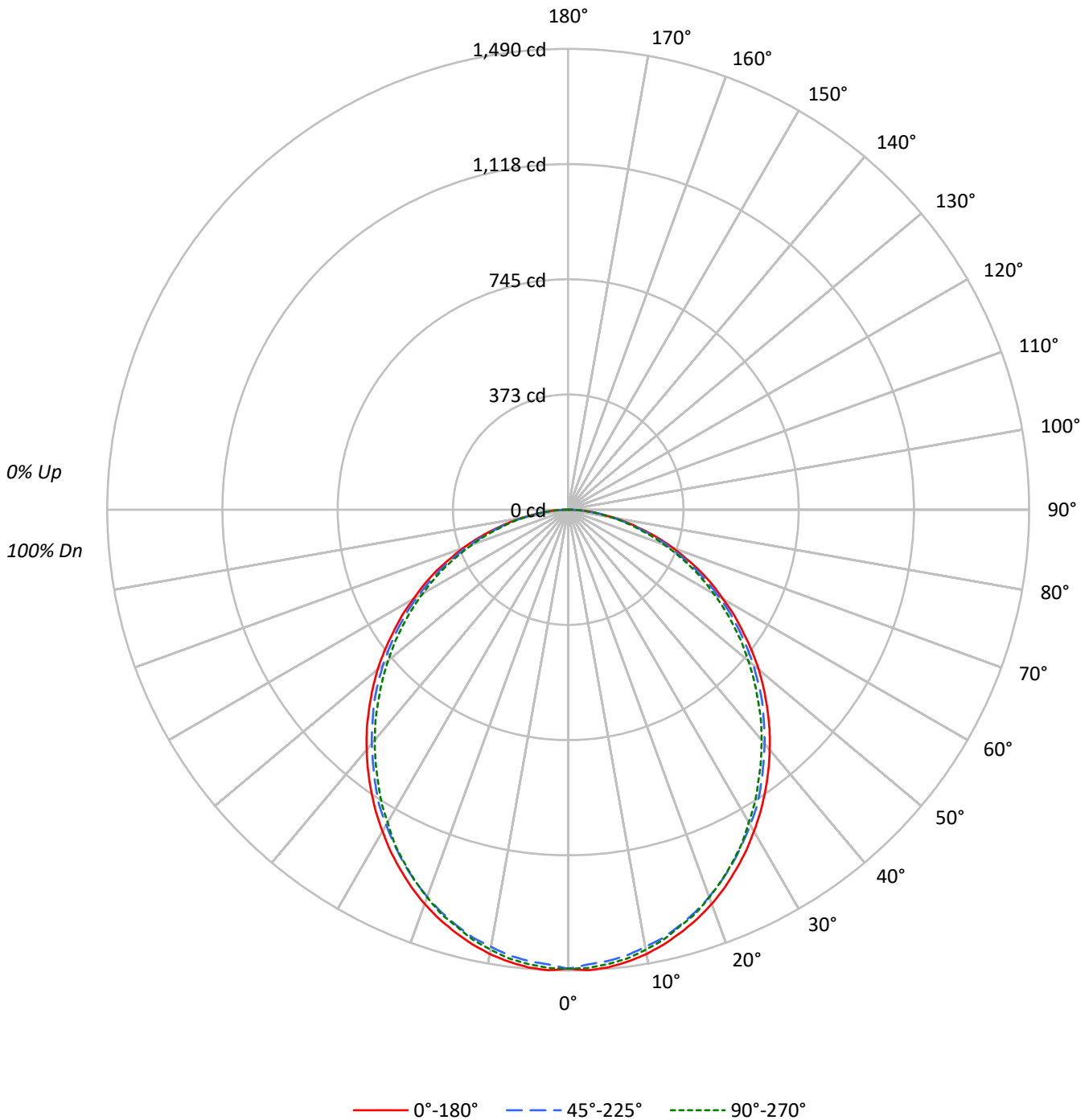
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3862.4 lumens  
Efficiency: N/A  
Efficacy: 94.0 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): 41.1  
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

TEST NUMBER: P242450

CATALOG NUMBER: S123DRP-S1165D935-X4F0-XX-UDD-F-W

### Luminous Intensity Polar Plot





TEST NUMBER: P242450

CATALOG NUMBER: S123DRP-S1165D935-X4F0-XX-UDD-F-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	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°	17989	17989	17989
5°	18072	17824	17948
10°	17952	17670	17779
15°	17743	17470	17502
20°	17498	17184	17201
25°	17169	16845	16810
30°	16807	16467	16342
35°	16428	16068	15861
40°	16032	15629	15386
45°	15596	15224	14852
50°	15159	14728	14318
55°	14590	14212	13781
60°	14015	13612	13178
65°	13506	12955	12554
70°	12755	12209	11667
75°	11652	11235	10757
80°	10512	10066	9975
85°	9235	8873	8525

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15596 cd/sqm



TEST NUMBER: P242450

CATALOG NUMBER: S123DRP-S1165D935-X4F0-XX-UDD-F-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.9	3.6
10°-20°	395.1	10.2
20°-30°	583.4	15.1
30°-40°	681.4	17.6
40°-50°	685.0	17.7
50°-60°	601.8	15.6
60°-70°	448.2	11.6
70°-80°	255.0	6.6
80°-90°	72.5	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°	1118.4	29.0
0°-40°	1799.8	46.6
0°-60°	3086.6	79.9
0°-90°	3862.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3862.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1484	1484	1484	1484	1484	
5°	1485	1479	1465	1478	1475	141
15°	1414	1409	1392	1402	1395	399
25°	1284	1276	1260	1261	1257	591
35°	1110	1102	1086	1078	1072	695
45°	910	905	888	873	866	702
55°	690	689	672	658	652	618
65°	471	464	452	442	438	465
75°	249	244	240	234	230	266
85°	66	64	64	61	61	76
90°	0	0	0	0	0	



TEST NUMBER: P242450

CATALOG NUMBER: S123DRP-S1165D935-X4F0-XX-UDD-F-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1484.1	1484.1	1484.1	1484.1	1484.1
2.5°	1490.4	1485.3	1471.3	1484.1	1482.8
5°	1485.3	1479.0	1464.9	1477.7	1475.1
7.5°	1473.9	1467.5	1453.4	1464.9	1463.6
10°	1458.5	1452.2	1435.6	1447.1	1444.5
12.5°	1438.1	1433.0	1417.7	1425.4	1424.1
15°	1413.9	1408.8	1392.2	1402.4	1394.7
17.5°	1387.1	1380.7	1364.1	1371.8	1369.2
20°	1356.5	1348.8	1332.2	1337.3	1333.5
22.5°	1322.0	1314.3	1297.8	1301.6	1296.5
25°	1283.7	1276.1	1259.5	1260.8	1256.9
27.5°	1244.2	1236.5	1218.6	1219.9	1216.1
30°	1200.8	1194.4	1176.5	1176.5	1167.6
32.5°	1157.4	1148.5	1135.7	1126.8	1122.9
35°	1110.2	1102.5	1085.9	1078.3	1071.9
37.5°	1063.0	1052.8	1036.2	1027.2	1023.4
40°	1013.2	1005.5	987.7	977.5	972.4
42.5°	963.4	954.5	936.6	926.4	921.3
45°	909.8	904.7	888.1	872.8	866.4
47.5°	857.5	849.9	834.5	819.2	814.1
50°	803.9	797.5	781.0	766.9	759.3
52.5°	747.8	743.9	726.1	714.6	706.9
55°	690.4	689.1	672.5	658.5	652.1
57.5°	636.8	631.7	618.9	606.1	598.5
60°	578.1	576.8	561.5	550.0	543.6
62.5°	525.7	521.9	506.6	495.1	491.3
65°	470.9	464.5	451.7	441.5	437.7
67.5°	412.2	407.1	396.9	387.9	382.8
70°	359.9	352.2	344.5	335.6	329.2
72.5°	305.0	299.9	290.9	283.3	280.7
75°	248.8	243.7	239.9	233.5	229.7
77.5°	199.1	196.5	191.4	186.3	186.3
80°	150.6	146.7	144.2	142.9	142.9
82.5°	103.4	103.4	103.4	100.8	99.5
85°	66.4	63.8	63.8	61.3	61.3
87.5°	33.2	29.3	28.1	26.8	26.8
90°	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P242450  
 CATALOG NUMBER: S123DRP-S1165D935-X4F0-XX-UDD-F-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	21.40	23.02	21.76	23.33	23.65	21.08	22.70	21.45	23.02	23.33
	3H	23.17	24.63	23.55	24.96	25.32	22.80	24.26	23.18	24.59	24.95
	4H	23.83	25.20	24.22	25.55	25.93	23.44	24.81	23.83	25.16	25.54
	6H	24.31	25.59	24.73	25.96	26.35	23.92	25.20	24.33	25.56	25.95
	8H	24.47	25.69	24.89	26.07	26.47	24.08	25.30	24.51	25.69	26.09
	12H	24.57	25.74	25.00	26.12	26.55	24.19	25.36	24.62	25.74	26.17
4H	2H	21.98	23.35	22.38	23.70	24.08	21.73	23.10	22.13	23.45	23.83
	3H	23.97	25.12	24.38	25.52	25.92	23.66	24.82	24.07	25.21	25.61
	4H	24.75	25.80	25.19	26.21	26.65	24.43	25.47	24.86	25.88	26.32
	6H	25.37	26.28	25.83	26.73	27.18	25.04	25.95	25.49	26.39	26.85
	8H	25.57	26.43	26.03	26.87	27.34	25.24	26.10	25.70	26.54	27.01
	12H	25.73	26.49	26.21	26.97	27.44	25.39	26.16	25.87	26.64	27.11
8H	4H	25.04	25.89	25.50	26.34	26.80	24.75	25.60	25.21	26.04	26.51
	6H	25.78	26.49	26.27	26.97	27.45	25.48	26.19	25.98	26.68	27.16
	8H	26.05	26.69	26.56	27.19	27.68	25.76	26.40	26.27	26.91	27.39
	12H	26.28	26.84	26.78	27.33	27.89	25.99	26.55	26.49	27.04	27.60
12H	4H	25.07	25.84	25.55	26.31	26.78	24.78	25.55	25.26	26.03	26.50
	6H	25.83	26.46	26.34	26.97	27.46	25.54	26.18	26.05	26.69	27.17
	8H	26.16	26.72	26.67	27.21	27.77	25.88	26.45	26.39	26.94	27.50