

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: P243358

Luminaire Tested: S123DRP-H775D830-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243358  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-54)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-H775D830-X4F0-XX-UDD-D-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

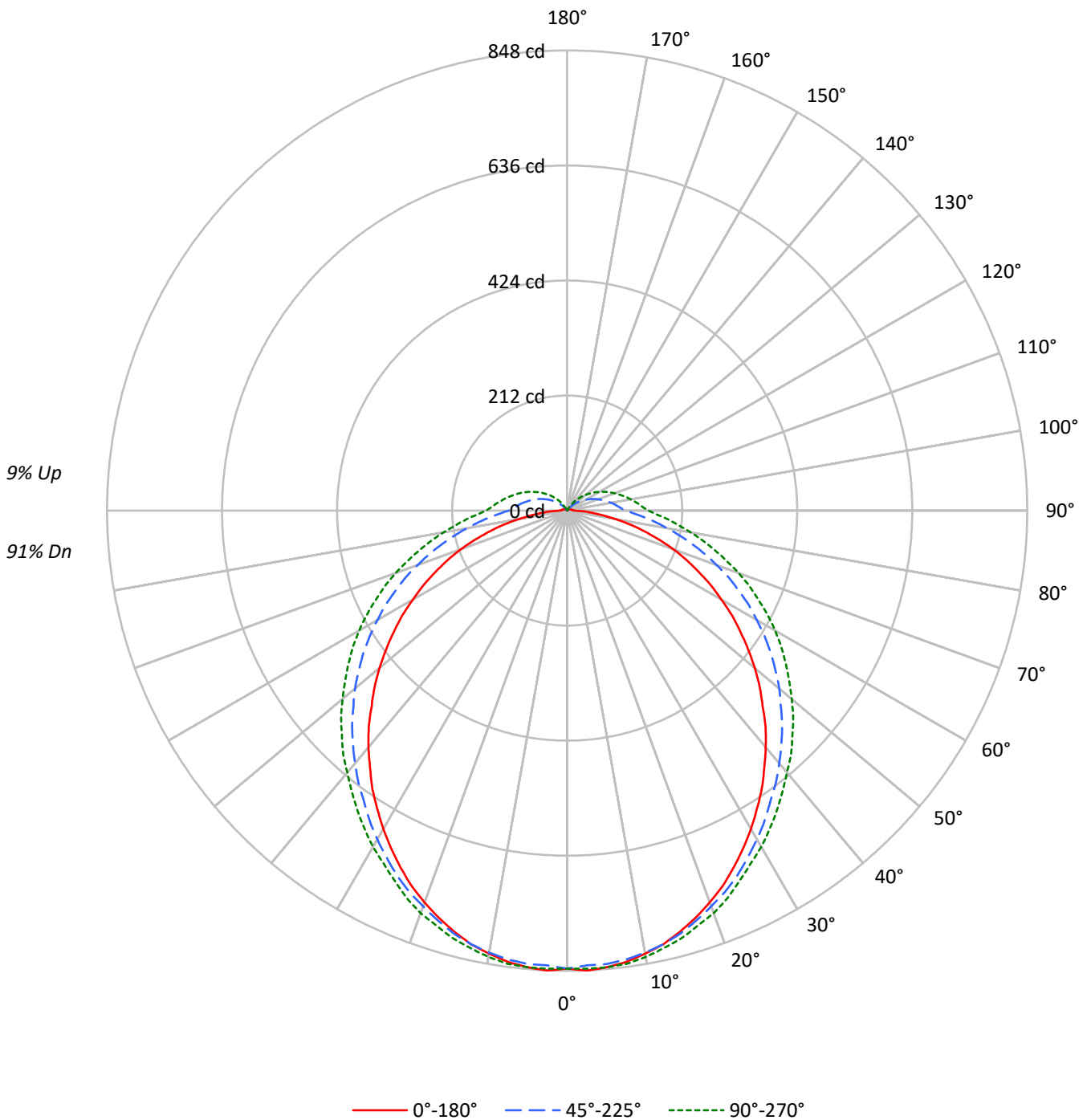
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2864.5 lumens  
Efficiency: N/A  
Efficacy: 121.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 23.6  
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

TEST NUMBER: P243358

CATALOG NUMBER: S123DRP-H775D830-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P243358

CATALOG NUMBER: S123DRP-H775D830-X4F0-XX-UDD-D-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	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	105	100	95	90	101	96	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	91	83	77	71	78	73	68	74	69	65	69	66	62	60
3	86	75	66	60	83	73	65	58	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	53	48	57	51	46	54	49	45	42
5	72	59	50	43	70	57	49	42	54	47	41	51	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	60	47	38	32	44	37	32	42	36	31	40	34	30	28
8	57	44	35	29	55	43	34	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

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

	0°	45°	90°
0°	10230	10230	10230
5°	10260	9967	9962
10°	10165	9715	9660
15°	10025	9438	9328
20°	9833	9109	8992
25°	9613	8804	8604
30°	9368	8461	8277
35°	9121	8115	7951
40°	8850	7832	7639
45°	8550	7553	7379
50°	8301	7266	7108
55°	7994	6976	6842
60°	7673	6653	6585
65°	7334	6310	6269
70°	6950	5942	5960
75°	6373	5540	5595
80°	5637	5141	5275
85°	5012	4822	5033

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8550 cd/sqm



TEST NUMBER: P243358

CATALOG NUMBER: S123DRP-H775D830-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.1	2.8
10°-20°	228.4	8.0
20°-30°	342.1	11.9
30°-40°	409.4	14.3
40°-50°	429.3	15.0
50°-60°	403.6	14.1
60°-70°	337.7	11.8
70°-80°	242.4	8.5
80°-90°	145.2	5.1
90°-100°	92.0	3.2
100°-110°	67.8	2.4
110°-120°	45.4	1.6
120°-130°	26.2	0.9
130°-140°	12.1	0.4
140°-150°	2.8	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	650.7	22.7
0°-40°	1060.0	37.0
0°-60°	1892.9	66.1
0°-90°	2618.1	91.4
90°-120°	205.3	7.2
90°-150°	246.3	8.6
90°-180°	246.0	8.6
0°-180°	2864.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	844	844	844	844	844	
5°	845	844	839	846	845	80
15°	804	809	807	818	816	226
25°	726	736	742	753	752	334
35°	626	641	653	670	674	391
45°	510	535	561	580	587	394
55°	390	422	458	483	492	349
65°	268	307	348	379	389	266
75°	147	192	238	271	282	156
85°	45	92	143	175	187	46
90°	12	58	107	140	150	9
95°	10	48	93	123	133	8
105°	7	31	71	98	106	8
115°	4	16	50	73	81	5
125°	4	4	31	50	57	3
135°	2	1	13	29	34	1
145°	1	0	0	9	12	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

TEST NUMBER: P243358

CATALOG NUMBER: S123DRP-H775D830-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	844.0	844.0	844.0	844.0	844.0
2.5°	848.4	845.7	838.7	846.6	844.8
5°	844.8	844.0	838.7	845.7	844.8
7.5°	838.7	838.7	834.3	842.2	842.2
10°	829.0	831.6	827.2	836.0	835.2
12.5°	818.4	822.0	818.4	828.1	825.5
15°	803.5	808.7	807.0	817.5	815.8
17.5°	786.7	792.9	792.0	802.6	801.7
20°	768.3	776.2	776.2	786.7	789.4
22.5°	748.9	757.7	760.3	770.9	772.7
25°	726.0	735.7	741.9	753.3	752.4
27.5°	702.3	713.7	720.7	733.1	733.1
30°	677.6	690.8	699.6	712.8	715.5
32.5°	651.2	667.1	677.6	691.7	695.2
35°	625.7	640.7	653.0	669.7	674.1
37.5°	596.7	615.1	631.9	649.5	652.1
40°	569.4	589.6	608.1	626.6	630.1
42.5°	541.2	562.3	584.3	602.8	610.7
45°	509.5	535.1	560.6	579.9	587.0
47.5°	481.4	506.9	534.2	557.1	565.0
50°	451.5	477.9	510.4	532.4	540.3
52.5°	420.7	449.7	484.0	507.8	515.7
55°	389.9	422.4	458.5	483.1	491.9
57.5°	360.8	393.4	431.2	458.5	468.2
60°	328.3	364.3	403.9	432.1	442.7
62.5°	299.2	336.2	377.5	405.7	416.3
65°	267.5	307.1	348.5	379.3	389.0
67.5°	238.5	277.2	322.1	352.9	363.5
70°	207.7	248.2	293.1	324.7	336.2
72.5°	176.9	220.0	265.8	298.3	308.0
75°	147.0	191.8	238.5	271.0	281.6
77.5°	118.8	163.7	212.1	244.6	256.1
80°	90.6	137.3	187.4	220.0	231.4
82.5°	66.0	113.5	164.6	196.2	206.8
85°	44.9	91.5	142.6	175.1	186.6
87.5°	26.4	73.9	123.2	155.8	165.4
90°	12.3	58.1	107.4	139.9	149.6
92.5°	11.4	51.9	99.4	130.2	139.9
95°	9.7	47.5	93.3	123.2	132.9
97.5°	9.7	43.1	88.0	117.0	125.8
100°	8.8	38.7	82.7	110.0	118.8
102.5°	7.9	34.3	76.6	103.8	112.6
105°	7.0	30.8	71.3	97.7	105.6
107.5°	6.2	26.4	66.0	91.5	99.4
110°	6.2	22.9	60.7	85.4	93.3



TEST NUMBER: P243358

CATALOG NUMBER: S123DRP-H775D830-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	5.3	19.4	55.4	79.2	87.1
115°	4.4	15.8	50.2	73.0	81.0
117.5°	4.4	12.3	44.9	67.8	74.8
120°	4.4	9.7	40.5	61.6	68.6
122.5°	3.5	6.2	36.1	56.3	63.4
125°	3.5	3.5	30.8	50.2	57.2
127.5°	2.6	1.8	26.4	44.9	51.0
130°	2.6	1.8	22.0	39.6	45.8
132.5°	1.8	1.8	17.6	34.3	40.5
135°	1.8	0.9	13.2	29.0	34.3
137.5°	1.8	0.9	8.8	23.8	29.0
140°	0.9	0.9	4.4	18.5	23.8
142.5°	0.9	0.0	0.9	14.1	18.5
145°	0.9	0.0	0.0	8.8	12.3
147.5°	0.9	0.0	0.0	4.4	7.9
150°	0.9	0.0	0.0	0.0	2.6
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P243358  
 CATALOG NUMBER: S123DRP-H775D830-X4F0-XX-UDD-D-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	18.62	17.61	19.10	19.62	19.18	20.68	19.67	21.17	21.69
	3H	18.67	20.04	19.17	20.53	21.09	21.58	22.95	22.08	23.44	24.00
	4H	19.19	20.49	19.72	21.00	21.58	22.69	23.99	23.22	24.50	25.08
	6H	19.53	20.74	20.07	21.26	21.86	23.82	25.03	24.36	25.55	26.14
	8H	19.62	20.78	20.17	21.32	21.92	24.38	25.54	24.93	26.09	26.68
	12H	19.67	20.78	20.22	21.32	21.94	25.00	26.11	25.56	26.65	27.28
4H	2H	18.03	19.33	18.56	19.84	20.41	19.63	20.93	20.16	21.44	22.02
	3H	19.83	20.94	20.37	21.49	22.09	22.24	23.35	22.78	23.90	24.50
	4H	20.50	21.51	21.06	22.08	22.70	23.52	24.53	24.08	25.09	25.72
	6H	20.97	21.86	21.55	22.45	23.09	24.82	25.71	25.40	26.30	26.94
	8H	21.11	21.95	21.69	22.53	23.19	25.48	26.32	26.06	26.91	27.56
	12H	21.19	21.95	21.80	22.57	23.23	26.21	26.97	26.81	27.59	28.25
8H	4H	21.15	21.99	21.73	22.57	23.23	23.74	24.58	24.33	25.17	25.82
	6H	21.80	22.51	22.42	23.14	23.80	25.20	25.91	25.82	26.54	27.20
	8H	22.03	22.68	22.66	23.31	23.99	25.99	26.63	26.61	27.27	27.94
	12H	22.20	22.78	22.83	23.40	24.14	26.88	27.45	27.51	28.08	28.82
12H	4H	21.30	22.07	21.91	22.68	23.34	23.75	24.51	24.36	25.13	25.79
	6H	22.05	22.69	22.68	23.33	24.00	25.24	25.88	25.87	26.52	27.20
	8H	22.37	22.95	23.00	23.57	24.31	26.09	26.66	26.72	27.29	28.03