

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: P243377

Luminaire Tested: S123DRP-H775D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243377
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-H775D935-X4F0-XX-UDD-D-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

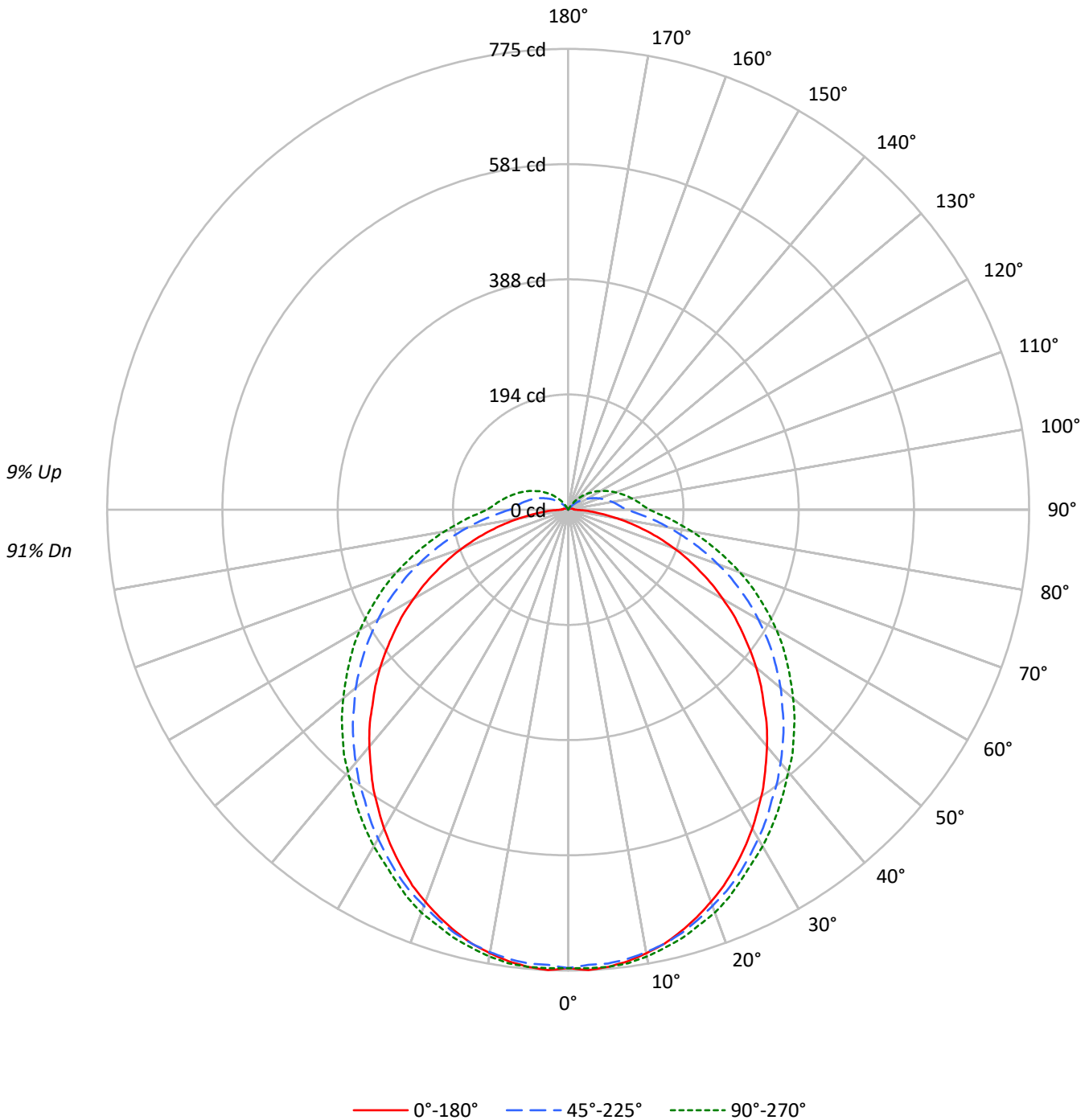
Lumens per Lamp: N/A
Luminaire Lumens: 2616.6 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')
CIE Type: Direct

Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (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

TEST NUMBER: P243377

CATALOG NUMBER: S123DRP-H775D935-X4F0-XX-UDD-D-W

Luminous Intensity Polar Plot





TEST NUMBER: P243377

CATALOG NUMBER: S123DRP-H775D935-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°	9344	9344	9344
5°	9372	9105	9100
10°	9286	8875	8824
15°	9158	8622	8521
20°	8982	8321	8214
25°	8782	8042	7859
30°	8558	7730	7561
35°	8333	7413	7263
40°	8084	7155	6979
45°	7812	6900	6741
50°	7582	6639	6494
55°	7301	6372	6251
60°	7009	6078	6015
65°	6701	5763	5726
70°	6348	5427	5444
75°	5822	5061	5110
80°	5151	4697	4819
85°	4577	4403	4596

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7812 cd/sqm



TEST NUMBER: P243377

CATALOG NUMBER: S123DRP-H775D935-X4F0-XX-UDD-D-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.2	2.8
10°-20°	208.7	8.0
20°-30°	312.5	11.9
30°-40°	374.0	14.3
40°-50°	392.1	15.0
50°-60°	368.6	14.1
60°-70°	308.5	11.8
70°-80°	221.4	8.5
80°-90°	132.6	5.1
90°-100°	84.1	3.2
100°-110°	62.0	2.4
110°-120°	41.5	1.6
120°-130°	23.9	0.9
130°-140°	11.0	0.4
140°-150°	2.5	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	594.4	22.7
0°-40°	968.3	37.0
0°-60°	1729.1	66.1
0°-90°	2391.6	91.4
90°-120°	187.5	7.2
90°-150°	225.0	8.6
90°-180°	225.0	8.6
0°-180°	2616.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	771	771	771	771	771	
5°	772	771	766	772	772	73
15°	734	739	737	747	745	207
25°	663	672	678	688	687	305
35°	572	585	596	612	616	357
45°	466	489	512	530	536	360
55°	356	386	419	441	449	319
65°	244	281	318	346	355	243
75°	134	175	218	248	257	143
85°	41	84	130	160	170	42
90°	11	53	98	128	137	8
95°	9	43	85	112	121	7
105°	6	28	65	89	96	7
115°	4	14	46	67	74	4
125°	3	3	28	46	52	3
135°	2	1	12	26	31	1
145°	1	0	0	8	11	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: P243377

CATALOG NUMBER: S123DRP-H775D935-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	770.9	770.9	770.9	770.9	770.9
2.5°	775.0	772.5	766.1	773.3	771.7
5°	771.7	770.9	766.1	772.5	771.7
7.5°	766.1	766.1	762.1	769.3	769.3
10°	757.3	759.7	755.7	763.7	762.9
12.5°	747.6	750.8	747.6	756.5	754.1
15°	734.0	738.8	737.2	746.8	745.2
17.5°	718.7	724.3	723.5	733.2	732.4
20°	701.8	709.0	709.0	718.7	721.1
22.5°	684.1	692.2	694.6	704.2	705.8
25°	663.2	672.1	677.7	688.1	687.3
27.5°	641.5	652.0	658.4	669.6	669.6
30°	619.0	631.1	639.1	651.2	653.6
32.5°	594.9	609.4	619.0	631.9	635.1
35°	571.6	585.2	596.5	611.8	615.8
37.5°	545.0	561.9	577.2	593.3	595.7
40°	520.1	538.6	555.5	572.4	575.6
42.5°	494.4	513.7	533.8	550.7	557.9
45°	465.5	488.8	512.1	529.8	536.2
47.5°	439.7	463.0	488.0	508.9	516.1
50°	412.4	436.5	466.3	486.4	493.6
52.5°	384.3	410.8	442.1	463.8	471.1
55°	356.1	385.9	418.8	441.3	449.4
57.5°	329.6	359.3	393.9	418.8	427.7
60°	299.9	332.8	369.0	394.7	404.4
62.5°	273.3	307.1	344.9	370.6	380.2
65°	244.4	280.6	318.3	346.5	355.3
67.5°	217.9	253.2	294.2	322.4	332.0
70°	189.7	226.7	267.7	296.6	307.1
72.5°	161.6	201.0	242.8	272.5	281.4
75°	134.3	175.2	217.9	247.6	257.2
77.5°	108.5	149.5	193.7	223.5	233.9
80°	82.8	125.4	171.2	201.0	211.4
82.5°	60.3	103.7	150.3	179.3	188.9
85°	41.0	83.6	130.2	160.0	170.4
87.5°	24.1	67.5	112.5	142.3	151.1
90°	11.3	53.1	98.1	127.8	136.7
92.5°	10.5	47.4	90.8	119.0	127.8
95°	8.8	43.4	85.2	112.5	121.4
97.5°	8.8	39.4	80.4	106.9	115.0
100°	8.0	35.4	75.6	100.5	108.5
102.5°	7.2	31.4	69.9	94.9	102.9
105°	6.4	28.1	65.1	89.2	96.5
107.5°	5.6	24.1	60.3	83.6	90.8
110°	5.6	20.9	55.5	78.0	85.2



TEST NUMBER: P243377

CATALOG NUMBER: S123DRP-H775D935-X4F0-XX-UDD-D-W

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.8	17.7	50.6	72.4	79.6
115°	4.0	14.5	45.8	66.7	74.0
117.5°	4.0	11.3	41.0	61.9	68.3
120°	4.0	8.8	37.0	56.3	62.7
122.5°	3.2	5.6	33.0	51.4	57.9
125°	3.2	3.2	28.1	45.8	52.3
127.5°	2.4	1.6	24.1	41.0	46.6
130°	2.4	1.6	20.1	36.2	41.8
132.5°	1.6	1.6	16.1	31.4	37.0
135°	1.6	0.8	12.1	26.5	31.4
137.5°	1.6	0.8	8.0	21.7	26.5
140°	0.8	0.8	4.0	16.9	21.7
142.5°	0.8	0.0	0.8	12.9	16.9
145°	0.8	0.0	0.0	8.0	11.3
147.5°	0.8	0.0	0.0	4.0	7.2
150°	0.8	0.0	0.0	0.0	2.4
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: P243377

CATALOG NUMBER: S123DRP-H775D935-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	16.80	18.30	17.29	18.79	19.31	18.87	20.37	19.36	20.85	21.38
	3H	18.35	19.72	18.86	20.22	20.78	21.26	22.63	21.77	23.13	23.69
	4H	18.88	20.18	19.40	20.69	21.26	22.38	23.68	22.90	24.19	24.76
	6H	19.22	20.43	19.76	20.95	21.54	23.50	24.71	24.04	25.24	25.83
	8H	19.30	20.46	19.85	21.01	21.61	24.07	25.23	24.62	25.77	26.37
	12H	19.35	20.46	19.91	21.00	21.63	24.69	25.80	25.24	26.34	26.96
4H	2H	17.71	19.01	18.24	19.52	20.10	19.32	20.62	19.84	21.13	21.70
	3H	19.52	20.62	20.05	21.17	21.77	21.93	23.04	22.47	23.59	24.19
	4H	20.19	21.20	20.74	21.76	22.39	23.20	24.22	23.76	24.78	25.41
	6H	20.66	21.55	21.23	22.14	22.78	24.51	25.40	25.08	25.99	26.63
	8H	20.79	21.63	21.37	22.22	22.87	25.16	26.00	25.75	26.59	27.25
	12H	20.88	21.64	21.48	22.25	22.91	25.89	26.66	26.50	27.27	27.93
8H	4H	20.83	21.67	21.41	22.26	22.91	23.43	24.27	24.01	24.86	25.51
	6H	21.49	22.20	22.10	22.83	23.49	24.89	25.60	25.50	26.23	26.89
	8H	21.72	22.36	22.35	23.00	23.67	25.67	26.31	26.30	26.95	27.63
	12H	21.89	22.46	22.52	23.09	23.83	26.57	27.14	27.20	27.77	28.51
12H	4H	20.99	21.75	21.60	22.37	23.03	23.44	24.20	24.04	24.82	25.48
	6H	21.73	22.38	22.36	23.02	23.69	24.93	25.57	25.56	26.21	26.88
	8H	22.06	22.63	22.69	23.26	24.00	25.78	26.35	26.41	26.98	27.72