

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: P243554

Luminaire Tested: S124DRP-H795D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243554  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DRP-H795D940-X4F0-XX-UDD-D-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

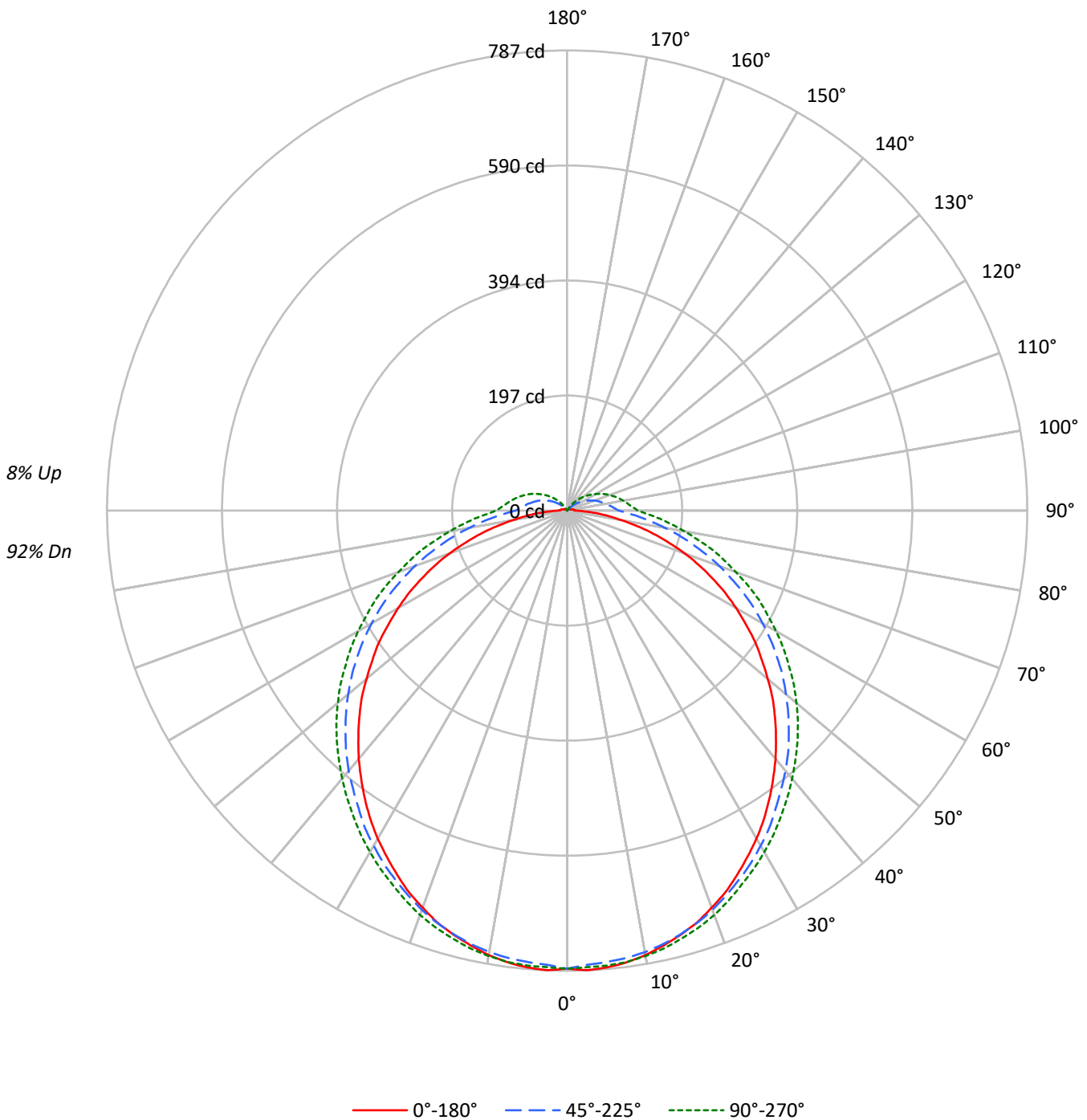
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2678.0 lumens  
Efficiency: N/A  
Efficacy: 113.5 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.31' 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: P243554

CATALOG NUMBER: S124DRP-H795D940-X4F0-XX-UDD-D-W

### Luminous Intensity Polar Plot





TEST NUMBER: P243554

CATALOG NUMBER: S124DRP-H795D940-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	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	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°	6964	6964	6964
5°	6985	6795	6810
10°	6940	6681	6668
15°	6871	6545	6507
20°	6783	6400	6346
25°	6678	6234	6159
30°	6566	6079	5999
35°	6444	5906	5832
40°	6320	5758	5676
45°	6189	5600	5528
50°	6039	5438	5373
55°	5909	5267	5195
60°	5723	5076	5023
65°	5507	4862	4847
70°	5251	4619	4596
75°	4845	4321	4414
80°	4293	4032	4157
85°	3889	3802	4006

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6189 cd/sqm



TEST NUMBER: P243554

CATALOG NUMBER: S124DRP-H795D940-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.2	2.8
10°-20°	212.7	7.9
20°-30°	321.9	12.0
30°-40°	389.8	14.6
40°-50°	412.3	15.4
50°-60°	388.4	14.5
60°-70°	322.8	12.1
70°-80°	226.9	8.5
80°-90°	127.8	4.8
90°-100°	75.8	2.8
100°-110°	56.1	2.1
110°-120°	37.4	1.4
120°-130°	21.1	0.8
130°-140°	9.0	0.3
140°-150°	1.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	608.8	22.7
0°-40°	998.6	37.3
0°-60°	1799.3	67.2
0°-90°	2476.7	92.5
90°-120°	169.4	6.3
90°-150°	201.3	7.5
90°-180°	201.0	7.5
0°-180°	2678.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	784	784	784	784	784	
5°	784	781	775	782	781	74
15°	751	753	750	758	758	212
25°	688	694	696	706	706	317
35°	603	613	622	635	638	377
45°	503	519	536	552	557	388
55°	393	414	439	458	463	350
65°	274	301	332	353	362	271
75°	152	185	222	246	256	161
85°	48	84	124	151	159	49
90°	14	49	88	112	121	9
95°	12	40	77	101	107	9
105°	8	26	58	80	87	9
115°	6	13	41	60	67	6
125°	3	2	24	41	47	3
135°	2	2	8	22	27	2
145°	1	0	0	5	8	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: P243554

CATALOG NUMBER: S124DRP-H795D940-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	783.5	783.5	783.5	783.5	783.5
2.5°	786.8	784.3	777.6	782.6	781.8
5°	784.3	781.0	775.1	781.8	781.0
7.5°	779.3	776.8	771.8	779.3	778.5
10°	771.8	770.1	766.8	773.5	773.5
12.5°	761.8	761.8	759.3	766.8	766.8
15°	751.0	752.6	750.1	758.5	757.6
17.5°	738.5	740.2	739.3	747.7	747.7
20°	722.7	725.2	726.8	736.0	736.0
22.5°	706.9	710.2	711.8	721.8	721.8
25°	687.7	693.5	696.0	706.0	706.0
27.5°	667.7	675.2	680.2	689.4	691.0
30°	647.7	656.1	661.9	671.9	674.4
32.5°	626.1	634.4	643.6	653.6	656.9
35°	602.8	612.8	621.9	635.3	637.8
37.5°	578.6	590.3	601.1	615.3	618.6
40°	554.5	568.6	581.1	594.5	598.6
42.5°	528.7	542.8	559.5	573.6	577.8
45°	502.9	518.7	536.2	552.0	557.0
47.5°	477.1	493.7	512.9	529.5	535.3
50°	447.9	466.2	488.7	505.4	512.0
52.5°	419.6	439.6	464.6	481.2	488.7
55°	393.0	413.8	438.8	457.9	462.9
57.5°	362.2	385.5	413.0	433.8	438.8
60°	333.9	357.2	386.3	407.1	413.0
62.5°	304.7	329.7	359.7	380.5	386.3
65°	273.9	301.4	332.2	353.0	362.2
67.5°	243.9	271.4	303.9	327.2	334.7
70°	214.0	242.3	277.2	300.6	306.4
72.5°	182.3	213.1	248.9	273.1	281.4
75°	152.4	184.8	221.5	246.4	256.4
77.5°	123.2	157.4	195.7	221.5	228.1
80°	94.1	131.5	169.8	195.7	204.0
82.5°	70.8	105.7	145.7	173.2	179.8
85°	47.5	84.1	124.1	150.7	159.0
87.5°	28.3	65.8	104.1	129.0	137.4
90°	14.2	49.1	88.3	112.4	120.7
92.5°	12.5	44.1	81.6	105.7	114.1
95°	11.7	40.0	76.6	100.7	107.4
97.5°	10.8	36.6	71.6	94.9	102.4
100°	10.0	32.5	67.4	89.9	97.4
102.5°	9.2	29.1	62.4	84.9	92.4
105°	8.3	25.8	58.3	79.9	87.4
107.5°	7.5	22.5	54.1	74.9	82.4
110°	6.7	19.1	50.0	69.9	77.4



TEST NUMBER: P243554

CATALOG NUMBER: S124DRP-H795D940-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	5.8	16.7	45.0	64.9	72.4
115°	5.8	13.3	40.8	59.9	67.4
117.5°	5.0	10.0	36.6	54.9	61.6
120°	5.0	7.5	32.5	50.0	56.6
122.5°	4.2	5.0	28.3	45.8	51.6
125°	3.3	2.5	24.1	40.8	46.6
127.5°	3.3	2.5	20.0	35.8	41.6
130°	2.5	2.5	15.8	30.8	36.6
132.5°	2.5	1.7	11.7	26.6	31.6
135°	1.7	1.7	7.5	21.6	26.6
137.5°	1.7	0.8	5.0	17.5	22.5
140°	1.7	0.8	1.7	13.3	17.5
142.5°	0.8	0.8	0.0	9.2	12.5
145°	0.8	0.0	0.0	5.0	8.3
147.5°	0.8	0.0	0.0	0.8	4.2
150°	0.0	0.0	0.0	0.0	0.0
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: P243554  
 CATALOG NUMBER: S124DRP-H795D940-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	16.53	18.06	17.01	18.52	19.02	18.11	19.64	18.59	20.11	20.60
	3H	18.18	19.57	18.67	20.05	20.58	20.42	21.81	20.91	22.29	22.83
	4H	18.75	20.07	19.26	20.56	21.11	21.49	22.81	22.00	23.30	23.86
	6H	19.14	20.36	19.66	20.87	21.43	22.54	23.77	23.06	24.27	24.84
	8H	19.24	20.42	19.78	20.95	21.52	23.06	24.23	23.59	24.76	25.33
	12H	19.31	20.43	19.85	20.96	21.56	23.61	24.73	24.15	25.26	25.86
4H	2H	17.39	18.71	17.90	19.20	19.75	18.62	19.93	19.13	20.43	20.98
	3H	19.28	20.40	19.80	20.93	21.51	21.15	22.27	21.67	22.80	23.38
	4H	19.99	21.01	20.53	21.56	22.16	22.37	23.40	22.92	23.94	24.55
	6H	20.50	21.41	21.07	21.98	22.60	23.60	24.50	24.16	25.07	25.69
	8H	20.66	21.51	21.23	22.08	22.71	24.21	25.06	24.77	25.63	26.26
	12H	20.76	21.54	21.35	22.13	22.77	24.87	25.64	25.46	26.24	26.87
8H	4H	20.57	21.42	21.14	21.99	22.62	22.63	23.48	23.20	24.05	24.68
	6H	21.26	21.98	21.86	22.59	23.23	24.01	24.73	24.61	25.34	25.98
	8H	21.51	22.16	22.13	22.78	23.43	24.75	25.40	25.36	26.02	26.67
	12H	21.70	22.28	22.32	22.89	23.61	25.58	26.15	26.19	26.77	27.48
12H	4H	20.70	21.48	21.29	22.07	22.71	22.64	23.42	23.24	24.02	24.65
	6H	21.47	22.12	22.09	22.75	23.40	24.06	24.71	24.67	25.33	25.98
	8H	21.81	22.39	22.43	23.00	23.72	24.87	25.44	25.48	26.06	26.77