

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: P242522

Luminaire Tested: S123DRP-S775D940-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242522  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S775D940-X4F0-XX-UDD-D-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

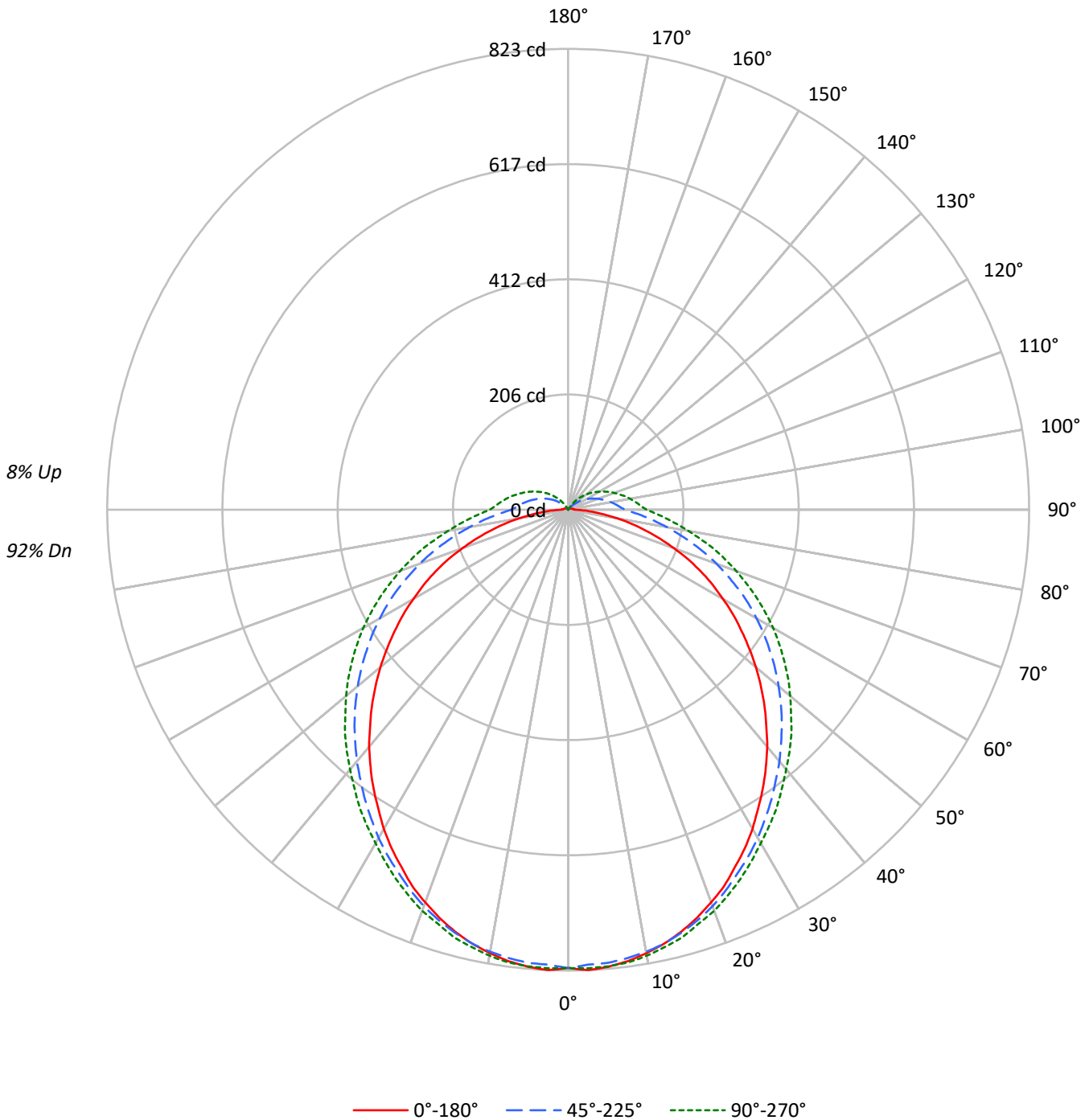
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2751.1 lumens  
Efficiency: N/A  
Efficacy: 104.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')  
CIE Type: Direct  
  
Input Watts (W): 26.4  
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: P242522

CATALOG NUMBER: S123DRP-S775D940-X4F0-XX-UDD-D-W

### 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	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	92
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	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	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	20

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

	0°	45°	90°
0°	9922	9922	9922
5°	9953	9654	9653
10°	9862	9414	9355
15°	9734	9146	9035
20°	9553	8843	8685
25°	9329	8497	8320
30°	9098	8186	7953
35°	8840	7857	7657
40°	8594	7557	7341
45°	8320	7269	7085
50°	8049	6982	6804
55°	7752	6689	6549
60°	7460	6390	6287
65°	7164	6071	5979
70°	6713	5713	5659
75°	6148	5303	5333
80°	5494	4891	4960
85°	4878	4582	4715

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8320 cd/sqm



TEST NUMBER: P242522

CATALOG NUMBER: S123DRP-S775D940-X4F0-XX-UDD-D-W

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.7	2.8
10°-20°	221.4	8.0
20°-30°	331.0	12.0
30°-40°	395.2	14.4
40°-50°	413.5	15.0
50°-60°	388.1	14.1
60°-70°	324.1	11.8
70°-80°	231.8	8.4
80°-90°	137.9	5.0
90°-100°	86.7	3.2
100°-110°	63.7	2.3
110°-120°	42.5	1.5
120°-130°	24.3	0.9
130°-140°	10.9	0.4
140°-150°	2.3	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	630.1	22.9
0°-40°	1025.3	37.3
0°-60°	1826.9	66.4
0°-90°	2520.7	91.6
90°-120°	192.9	7.0
90°-150°	230.4	8.4
90°-180°	230.0	8.4
0°-180°	2751.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	819	819	819	819	819	
5°	820	818	812	820	819	78
15°	780	783	782	791	790	220
25°	704	713	716	728	728	325
35°	606	621	632	646	649	379
45°	496	517	540	556	564	382
55°	378	408	440	464	471	339
65°	261	296	335	362	371	258
75°	142	184	228	258	268	151
85°	44	88	136	166	175	45
90°	12	55	101	131	140	8
95°	10	45	88	116	125	8
105°	7	28	67	92	100	7
115°	4	15	47	69	76	5
125°	3	3	28	47	54	3
135°	2	1	11	27	31	1
145°	1	0	0	7	11	0
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: P242522

CATALOG NUMBER: S123DRP-S775D940-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	818.6	818.6	818.6	818.6	818.6
2.5°	823.0	820.4	813.2	820.4	819.5
5°	819.5	817.7	812.3	819.5	818.6
7.5°	813.2	813.2	807.9	816.8	815.9
10°	804.3	806.1	801.6	810.6	808.8
12.5°	793.6	796.3	793.6	801.6	799.9
15°	780.2	782.9	782.0	790.9	790.1
17.5°	764.2	769.5	768.7	776.7	774.9
20°	746.4	751.7	753.5	761.5	762.4
22.5°	727.6	733.0	735.7	746.4	745.5
25°	704.5	713.4	716.0	727.6	727.6
27.5°	682.2	692.0	697.3	707.1	708.0
30°	658.1	669.7	676.8	687.5	687.5
32.5°	631.3	644.7	654.5	666.1	668.8
35°	606.4	620.6	632.2	645.6	649.2
37.5°	579.6	595.7	609.0	624.2	626.9
40°	552.9	568.9	586.7	601.9	605.5
42.5°	523.4	543.9	562.7	579.6	585.0
45°	495.8	517.2	539.5	556.4	563.6
47.5°	466.4	490.4	515.4	534.1	539.5
50°	437.8	462.8	490.4	511.0	517.2
52.5°	407.5	434.3	465.5	486.9	494.9
55°	378.1	407.5	439.6	463.7	470.8
57.5°	349.6	379.9	414.6	438.7	446.7
60°	319.2	351.3	387.9	412.9	422.7
62.5°	290.7	323.7	362.9	387.9	396.8
65°	261.3	296.0	335.3	362.0	371.0
67.5°	231.8	268.4	307.6	337.1	344.2
70°	200.6	239.0	281.8	310.3	319.2
72.5°	172.1	210.4	255.0	284.5	293.4
75°	141.8	183.7	228.3	257.7	268.4
77.5°	115.9	157.8	202.4	233.6	241.7
80°	88.3	132.0	178.3	208.7	217.6
82.5°	64.2	108.8	156.0	186.4	195.3
85°	43.7	88.3	135.5	165.9	174.8
87.5°	26.8	71.3	116.8	147.1	156.0
90°	11.6	55.3	100.8	131.1	140.0
92.5°	10.7	49.0	93.6	123.1	131.1
95°	9.8	44.6	88.3	115.9	124.8
97.5°	8.9	41.0	82.9	109.7	118.6
100°	8.0	36.6	77.6	103.4	112.4
102.5°	7.1	32.1	72.2	97.2	106.1
105°	7.1	28.5	66.9	91.8	99.9
107.5°	6.2	25.0	61.5	85.6	93.6
110°	5.4	21.4	57.1	80.3	87.4



TEST NUMBER: P242522

CATALOG NUMBER: S123DRP-S775D940-X4F0-XX-UDD-D-W

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	5.4	17.8	51.7	74.0	82.0
115°	4.5	15.2	47.3	68.7	75.8
117.5°	4.5	11.6	41.9	63.3	70.4
120°	3.6	8.0	37.5	58.0	64.2
122.5°	3.6	5.4	33.0	52.6	58.9
125°	2.7	2.7	28.5	47.3	53.5
127.5°	2.7	1.8	24.1	41.9	48.2
130°	2.7	1.8	19.6	36.6	41.9
132.5°	1.8	1.8	15.2	31.2	37.5
135°	1.8	0.9	10.7	26.8	31.2
137.5°	1.8	0.9	7.1	21.4	25.9
140°	0.9	0.9	3.6	16.9	21.4
142.5°	0.9	0.0	0.0	11.6	16.1
145°	0.9	0.0	0.0	7.1	10.7
147.5°	0.0	0.0	0.0	2.7	6.2
150°	0.0	0.0	0.0	0.0	1.8
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

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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	17.02	18.53	17.51	19.01	19.53	19.02	20.53	19.51	21.01	21.52
	3H	18.58	19.95	19.08	20.44	21.00	21.40	22.77	21.90	23.26	23.82
	4H	19.10	20.40	19.63	20.91	21.48	22.51	23.81	23.03	24.32	24.89
	6H	19.45	20.66	19.98	21.18	21.76	23.62	24.83	24.16	25.35	25.94
	8H	19.54	20.69	20.08	21.24	21.83	24.18	25.34	24.72	25.88	26.47
	12H	19.58	20.70	20.14	21.23	21.85	24.78	25.89	25.34	26.43	27.05
4H	2H	17.93	19.23	18.46	19.74	20.31	19.48	20.78	20.00	21.29	21.86
	3H	19.73	20.84	20.27	21.39	21.98	22.07	23.18	22.61	23.73	24.32
	4H	20.40	21.41	20.95	21.97	22.59	23.34	24.36	23.90	24.91	25.54
	6H	20.87	21.77	21.45	22.35	22.99	24.63	25.52	25.20	26.11	26.74
	8H	21.01	21.85	21.59	22.43	23.08	25.28	26.12	25.86	26.70	27.35
	12H	21.09	21.86	21.70	22.47	23.12	25.99	26.76	26.60	27.37	28.02
8H	4H	21.03	21.87	21.61	22.46	23.11	23.57	24.41	24.15	24.99	25.64
	6H	21.69	22.40	22.30	23.03	23.68	25.01	25.72	25.62	26.35	27.00
	8H	21.92	22.56	22.55	23.20	23.87	25.79	26.43	26.41	27.06	27.73
	12H	22.09	22.66	22.72	23.29	24.02	26.67	27.24	27.29	27.86	28.60
12H	4H	21.19	21.95	21.79	22.56	23.22	23.58	24.34	24.18	24.95	25.61
	6H	21.93	22.57	22.55	23.21	23.88	25.05	25.69	25.67	26.33	27.00
	8H	22.25	22.83	22.88	23.45	24.18	25.89	26.46	26.52	27.09	27.82