

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: P242517

Luminaire Tested: S123DRP-S775D935-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242517  
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-S775D935-X4F0-XX-UDD-D-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

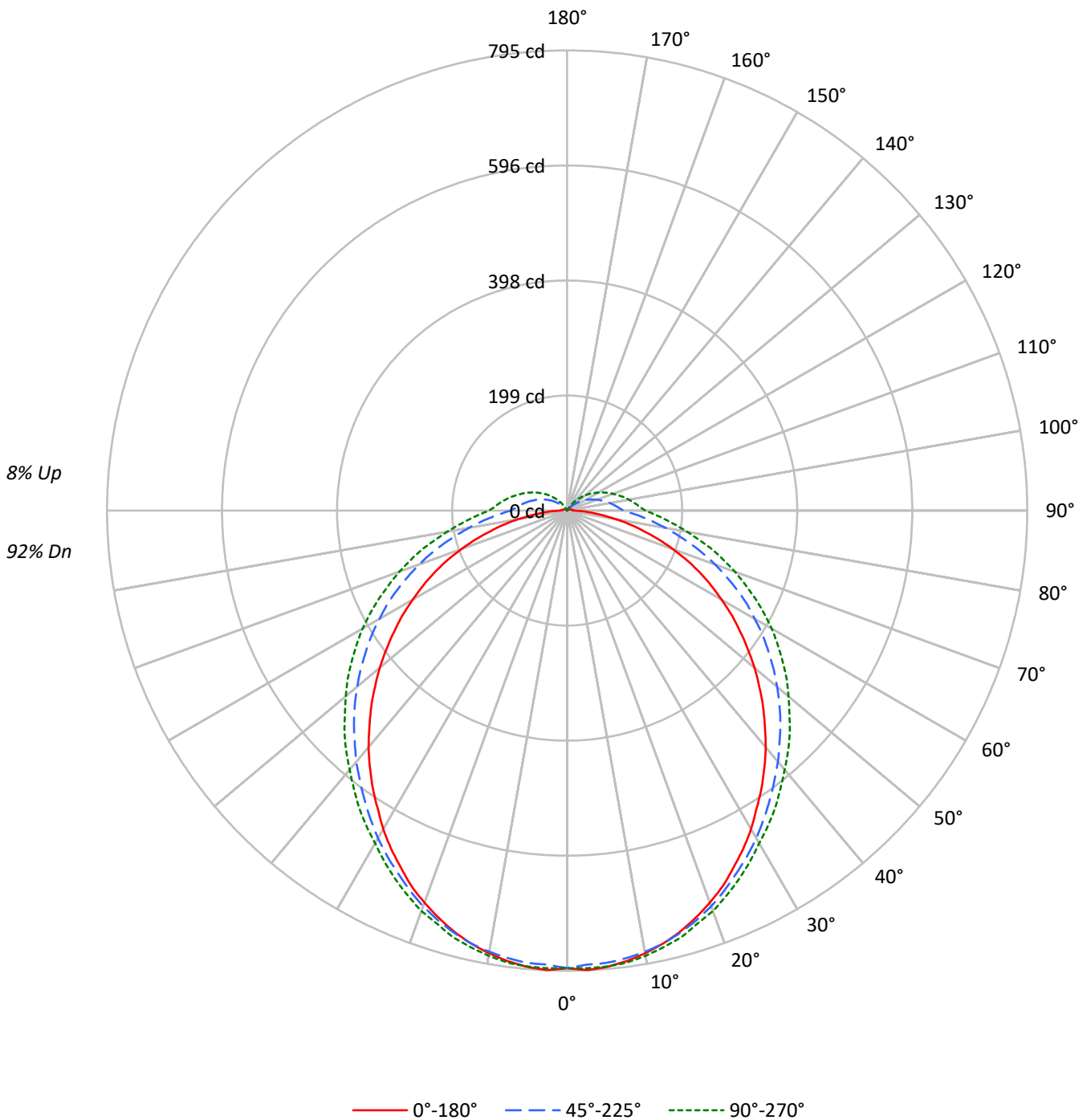
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2656.4 lumens  
Efficiency: N/A  
Efficacy: 100.6 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 (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

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### 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	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°	9581	9581	9581
5°	9610	9322	9321
10°	9522	9090	9032
15°	9400	8831	8722
20°	9224	8538	8386
25°	9007	8205	8034
30°	8784	7904	7679
35°	8535	7586	7393
40°	8297	7296	7088
45°	8033	7018	6841
50°	7774	6743	6570
55°	7486	6459	6323
60°	7203	6169	6070
65°	6917	5861	5772
70°	6482	5516	5464
75°	5935	5119	5150
80°	5301	4724	4789
85°	4711	4427	4553

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8033 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.0	2.8
10°-20°	213.7	8.0
20°-30°	319.6	12.0
30°-40°	381.6	14.4
40°-50°	399.3	15.0
50°-60°	374.7	14.1
60°-70°	313.0	11.8
70°-80°	223.8	8.4
80°-90°	133.2	5.0
90°-100°	83.7	3.2
100°-110°	61.5	2.3
110°-120°	41.1	1.5
120°-130°	23.4	0.9
130°-140°	10.5	0.4
140°-150°	2.2	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	608.4	22.9
0°-40°	990.0	37.3
0°-60°	1764.0	66.4
0°-90°	2433.9	91.6
90°-120°	186.3	7.0
90°-150°	222.4	8.4
90°-180°	222.0	8.4
0°-180°	2656.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	790	790	790	790	790	
5°	791	790	784	791	790	75
15°	753	756	755	764	763	212
25°	680	689	691	703	703	314
35°	586	599	610	623	627	366
45°	479	499	521	537	544	369
55°	365	394	424	448	455	327
65°	252	286	324	350	358	249
75°	137	177	220	249	259	146
85°	42	85	131	160	169	43
90°	11	53	97	127	135	8
95°	10	43	85	112	120	7
105°	7	28	65	89	96	7
115°	4	15	46	66	73	5
125°	3	3	28	46	52	3
135°	2	1	10	26	30	1
145°	1	0	0	7	10	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

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	790.4	790.4	790.4	790.4	790.4
2.5°	794.7	792.1	785.2	792.1	791.3
5°	791.3	789.5	784.4	791.3	790.4
7.5°	785.2	785.2	780.1	788.7	787.8
10°	776.6	778.3	774.0	782.6	780.9
12.5°	766.3	768.9	766.3	774.0	772.3
15°	753.4	756.0	755.1	763.7	762.8
17.5°	737.9	743.0	742.2	749.9	748.2
20°	720.7	725.8	727.5	735.3	736.2
22.5°	702.6	707.7	710.3	720.7	719.8
25°	680.2	688.8	691.4	702.6	702.6
27.5°	658.7	668.1	673.3	682.8	683.6
30°	635.4	646.6	653.5	663.8	663.8
32.5°	609.6	622.5	632.0	643.2	645.8
35°	585.5	599.3	610.4	623.4	626.8
37.5°	559.7	575.1	588.1	602.7	605.3
40°	533.8	549.3	566.5	581.2	584.6
42.5°	505.4	525.2	543.3	559.7	564.8
45°	478.7	499.4	520.9	537.3	544.2
47.5°	450.3	473.6	497.7	515.7	520.9
50°	422.8	446.9	473.6	493.4	499.4
52.5°	393.5	419.3	449.4	470.1	477.9
55°	365.1	393.5	424.5	447.7	454.6
57.5°	337.5	366.8	400.4	423.6	431.4
60°	308.2	339.2	374.5	398.6	408.1
62.5°	280.7	312.5	350.4	374.5	383.1
65°	252.3	285.9	323.7	349.6	358.2
67.5°	223.9	259.2	297.0	325.5	332.3
70°	193.7	230.7	272.1	299.6	308.2
72.5°	166.2	203.2	246.2	274.7	283.3
75°	136.9	177.4	220.4	248.8	259.2
77.5°	111.9	152.4	195.4	225.6	233.3
80°	85.2	127.4	172.2	201.5	210.1
82.5°	62.0	105.0	150.7	179.9	188.6
85°	42.2	85.2	130.9	160.1	168.8
87.5°	25.8	68.9	112.8	142.1	150.7
90°	11.2	53.4	97.3	126.6	135.2
92.5°	10.3	47.4	90.4	118.8	126.6
95°	9.5	43.1	85.2	111.9	120.5
97.5°	8.6	39.6	80.1	105.9	114.5
100°	7.7	35.3	74.9	99.9	108.5
102.5°	6.9	31.0	69.7	93.8	102.5
105°	6.9	27.6	64.6	88.7	96.4
107.5°	6.0	24.1	59.4	82.7	90.4
110°	5.2	20.7	55.1	77.5	84.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	5.2	17.2	49.9	71.5	79.2
115°	4.3	14.6	45.6	66.3	73.2
117.5°	4.3	11.2	40.5	61.1	68.0
120°	3.4	7.7	36.2	56.0	62.0
122.5°	3.4	5.2	31.9	50.8	56.8
125°	2.6	2.6	27.6	45.6	51.7
127.5°	2.6	1.7	23.2	40.5	46.5
130°	2.6	1.7	18.9	35.3	40.5
132.5°	1.7	1.7	14.6	30.1	36.2
135°	1.7	0.9	10.3	25.8	30.1
137.5°	1.7	0.9	6.9	20.7	25.0
140°	0.9	0.9	3.4	16.4	20.7
142.5°	0.9	0.0	0.0	11.2	15.5
145°	0.9	0.0	0.0	6.9	10.3
147.5°	0.0	0.0	0.0	2.6	6.0
150°	0.0	0.0	0.0	0.0	1.7
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	16.90	18.41	17.39	18.89	19.40	18.90	20.40	19.39	20.89	21.40
	3H	18.46	19.83	18.96	20.32	20.88	21.28	22.65	21.78	23.14	23.70
	4H	18.98	20.28	19.50	20.79	21.36	22.39	23.69	22.91	24.20	24.77
	6H	19.33	20.54	19.86	21.06	21.64	23.50	24.71	24.03	25.23	25.82
	8H	19.41	20.57	19.96	21.12	21.71	24.05	25.21	24.60	25.76	26.35
	12H	19.46	20.57	20.02	21.11	21.73	24.66	25.77	25.21	26.31	26.93
4H	2H	17.81	19.11	18.33	19.62	20.19	19.36	20.66	19.88	21.17	21.74
	3H	19.61	20.72	20.15	21.27	21.86	21.95	23.06	22.49	23.61	24.20
	4H	20.28	21.29	20.83	21.85	22.47	23.22	24.23	23.78	24.79	25.42
	6H	20.75	21.64	21.33	22.23	22.87	24.50	25.40	25.08	25.98	26.62
	8H	20.89	21.73	21.47	22.31	22.96	25.15	25.99	25.74	26.58	27.23
	12H	20.97	21.73	21.57	22.35	23.00	25.87	26.63	26.47	27.25	27.90
8H	4H	20.91	21.75	21.49	22.34	22.99	23.45	24.29	24.03	24.87	25.52
	6H	21.57	22.28	22.18	22.90	23.56	24.89	25.60	25.50	26.22	26.88
	8H	21.80	22.44	22.42	23.08	23.74	25.66	26.30	26.29	26.94	27.61
	12H	21.97	22.54	22.60	23.17	23.90	26.55	27.12	27.17	27.74	28.48
12H	4H	21.06	21.83	21.67	22.44	23.10	23.46	24.22	24.06	24.83	25.49
	6H	21.81	22.45	22.43	23.09	23.75	24.93	25.57	25.55	26.21	26.87
	8H	22.13	22.70	22.76	23.33	24.06	25.77	26.34	26.40	26.97	27.70