

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: P242453

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242453  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-S775D940-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

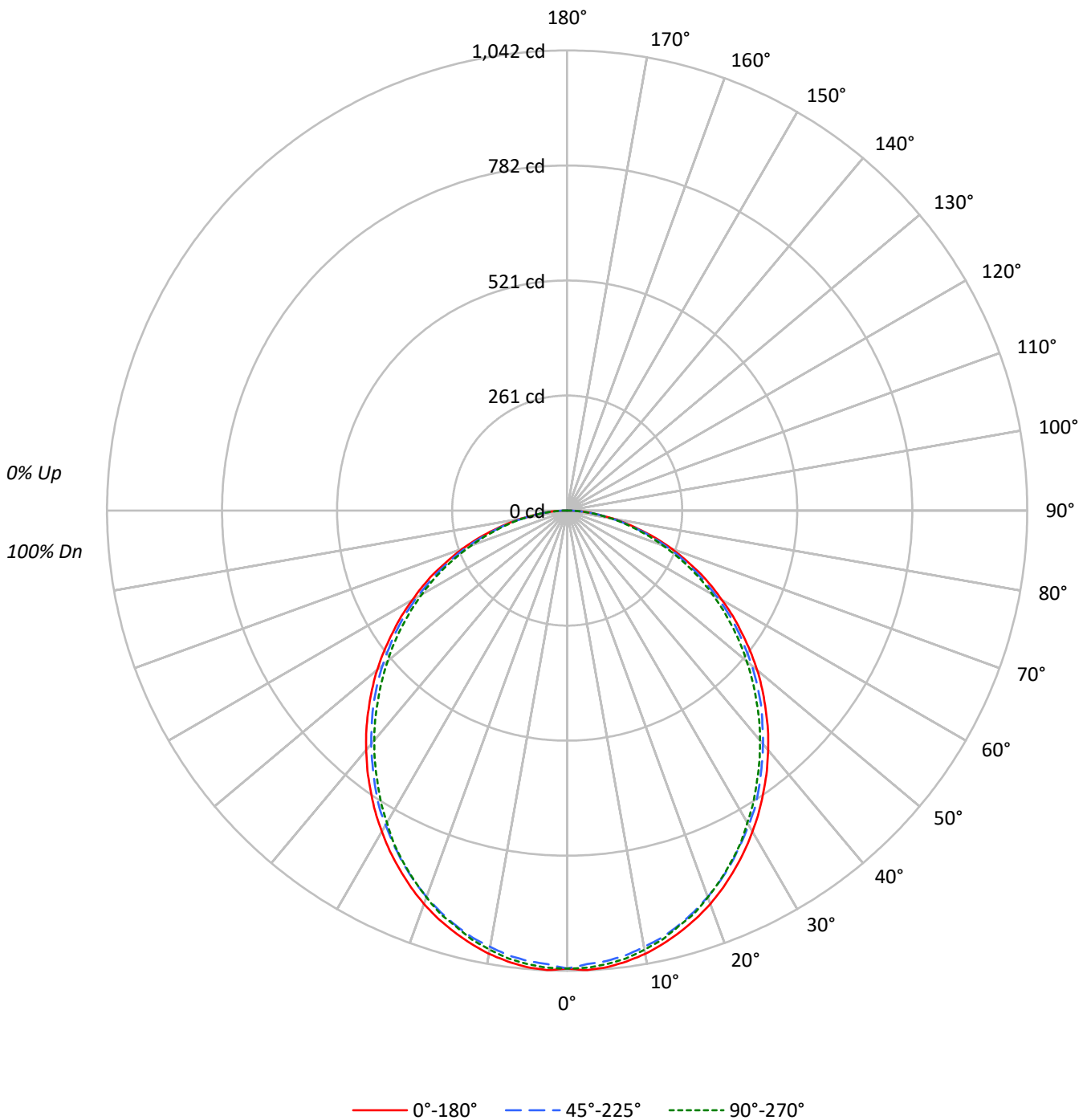
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2699.0 lumens  
Efficiency: N/A  
Efficacy: 102.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.3  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	59
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	63	54	48	60	53	47	58	52	47	57	51	46	44
6	71	57	49	42	69	56	48	42	55	47	42	53	46	41	51	46	41	39
7	66	52	43	37	64	51	43	37	50	42	37	48	42	37	47	41	36	34
8	61	48	39	33	60	47	39	33	46	38	33	44	38	33	43	37	33	31
9	57	44	36	30	56	43	35	30	42	35	30	41	34	30	40	34	30	28
10	54	40	33	27	52	40	32	27	39	32	27	38	32	27	37	31	27	25

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

	0°	45°	90°
0°	12571	12571	12571
5°	12630	12456	12542
10°	12545	12348	12424
15°	12398	12209	12230
20°	12227	12008	12019
25°	11998	11771	11747
30°	11744	11508	11420
35°	11480	11228	11083
40°	11203	10921	10752
45°	10899	10638	10379
50°	10594	10290	10006
55°	10194	9930	9630
60°	9792	9513	9210
65°	9436	9055	8774
70°	8913	8534	8155
75°	8144	7849	7517
80°	7343	7036	6973
85°	6453	6203	5952

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 10899 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.8	3.6
10°-20°	276.1	10.2
20°-30°	407.7	15.1
30°-40°	476.2	17.6
40°-50°	478.7	17.7
50°-60°	420.5	15.6
60°-70°	313.2	11.6
70°-80°	178.2	6.6
80°-90°	50.7	1.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	781.5	29.0
0°-40°	1257.7	46.6
0°-60°	2156.9	79.9
0°-90°	2699.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2699.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1037	1037	1037	1037	1037	
5°	1038	1034	1024	1033	1031	98
15°	988	984	973	980	975	279
25°	897	892	880	881	878	413
35°	776	770	759	754	749	485
45°	636	632	621	610	606	491
55°	482	482	470	460	456	432
65°	329	325	316	308	306	325
75°	174	170	168	163	160	186
85°	46	45	45	43	43	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1037.1	1037.1	1037.1	1037.1	1037.1
2.5°	1041.5	1038.0	1028.1	1037.1	1036.2
5°	1038.0	1033.5	1023.7	1032.6	1030.8
7.5°	1029.9	1025.5	1015.7	1023.7	1022.8
10°	1019.2	1014.8	1003.2	1011.2	1009.4
12.5°	1005.0	1001.4	990.7	996.0	995.1
15°	988.0	984.4	972.9	980.0	974.6
17.5°	969.3	964.8	953.2	958.6	956.8
20°	947.9	942.5	930.9	934.5	931.8
22.5°	923.8	918.5	906.9	909.5	906.0
25°	897.1	891.7	880.1	881.0	878.3
27.5°	869.4	864.1	851.6	852.5	849.8
30°	839.1	834.6	822.2	822.2	815.9
32.5°	808.8	802.5	793.6	787.4	784.7
35°	775.8	770.4	758.8	753.5	749.0
37.5°	742.8	735.7	724.1	717.8	715.2
40°	708.0	702.7	690.2	683.0	679.5
42.5°	673.2	667.0	654.5	647.4	643.8
45°	635.8	632.2	620.6	609.9	605.5
47.5°	599.2	593.9	583.2	572.5	568.9
50°	561.8	557.3	545.7	535.9	530.6
52.5°	522.5	519.9	507.4	499.4	494.0
55°	482.4	481.5	469.9	460.1	455.7
57.5°	445.0	441.4	432.5	423.6	418.2
60°	403.9	403.1	392.4	384.3	379.9
62.5°	367.4	364.7	354.0	346.0	343.3
65°	329.0	324.6	315.7	308.5	305.9
67.5°	288.0	284.5	277.3	271.1	267.5
70°	251.5	246.1	240.8	234.5	230.1
72.5°	213.1	209.6	203.3	198.0	196.2
75°	173.9	170.3	167.6	163.2	160.5
77.5°	139.1	137.3	133.8	130.2	130.2
80°	105.2	102.5	100.8	99.9	99.9
82.5°	72.2	72.2	72.2	70.4	69.6
85°	46.4	44.6	44.6	42.8	42.8
87.5°	23.2	20.5	19.6	18.7	18.7
90°	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	20.15	21.77	20.52	22.09	22.40	19.84	21.46	20.20	21.77	22.09
	3H	21.92	23.39	22.30	23.71	24.07	21.55	23.02	21.93	23.34	23.70
	4H	22.58	23.96	22.98	24.31	24.68	22.19	23.57	22.59	23.92	24.29
	6H	23.07	24.35	23.48	24.71	25.10	22.68	23.95	23.09	24.32	24.71
	8H	23.22	24.44	23.65	24.83	25.23	22.84	24.06	23.26	24.45	24.84
	12H	23.33	24.50	23.76	24.88	25.31	22.94	24.11	23.37	24.49	24.92
4H	2H	20.73	22.11	21.13	22.46	22.83	20.48	21.86	20.88	22.21	22.58
	3H	22.73	23.88	23.13	24.28	24.68	22.42	23.57	22.83	23.97	24.37
	4H	23.51	24.55	23.94	24.97	25.40	23.18	24.22	23.61	24.64	25.07
	6H	24.13	25.04	24.58	25.48	25.94	23.79	24.71	24.25	25.15	25.60
	8H	24.33	25.18	24.79	25.62	26.09	24.00	24.85	24.46	25.30	25.76
	12H	24.48	25.25	24.96	25.72	26.19	24.15	24.92	24.63	25.39	25.86
8H	4H	23.79	24.65	24.25	25.09	25.56	23.50	24.36	23.96	24.80	25.26
	6H	24.53	25.24	25.02	25.73	26.20	24.24	24.95	24.73	25.44	25.91
	8H	24.80	25.44	25.31	25.95	26.43	24.52	25.16	25.03	25.66	26.15
	12H	25.03	25.60	25.54	26.09	26.65	24.74	25.31	25.25	25.80	26.36
12H	4H	23.82	24.59	24.30	25.07	25.53	23.54	24.31	24.02	24.78	25.25
	6H	24.58	25.22	25.09	25.73	26.21	24.30	24.94	24.81	25.44	25.93
	8H	24.91	25.48	25.42	25.97	26.53	24.64	25.20	25.15	25.69	26.25