

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: P243299

Luminaire Tested: S123DRP-H1000D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243299  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DRP-H1000D840-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

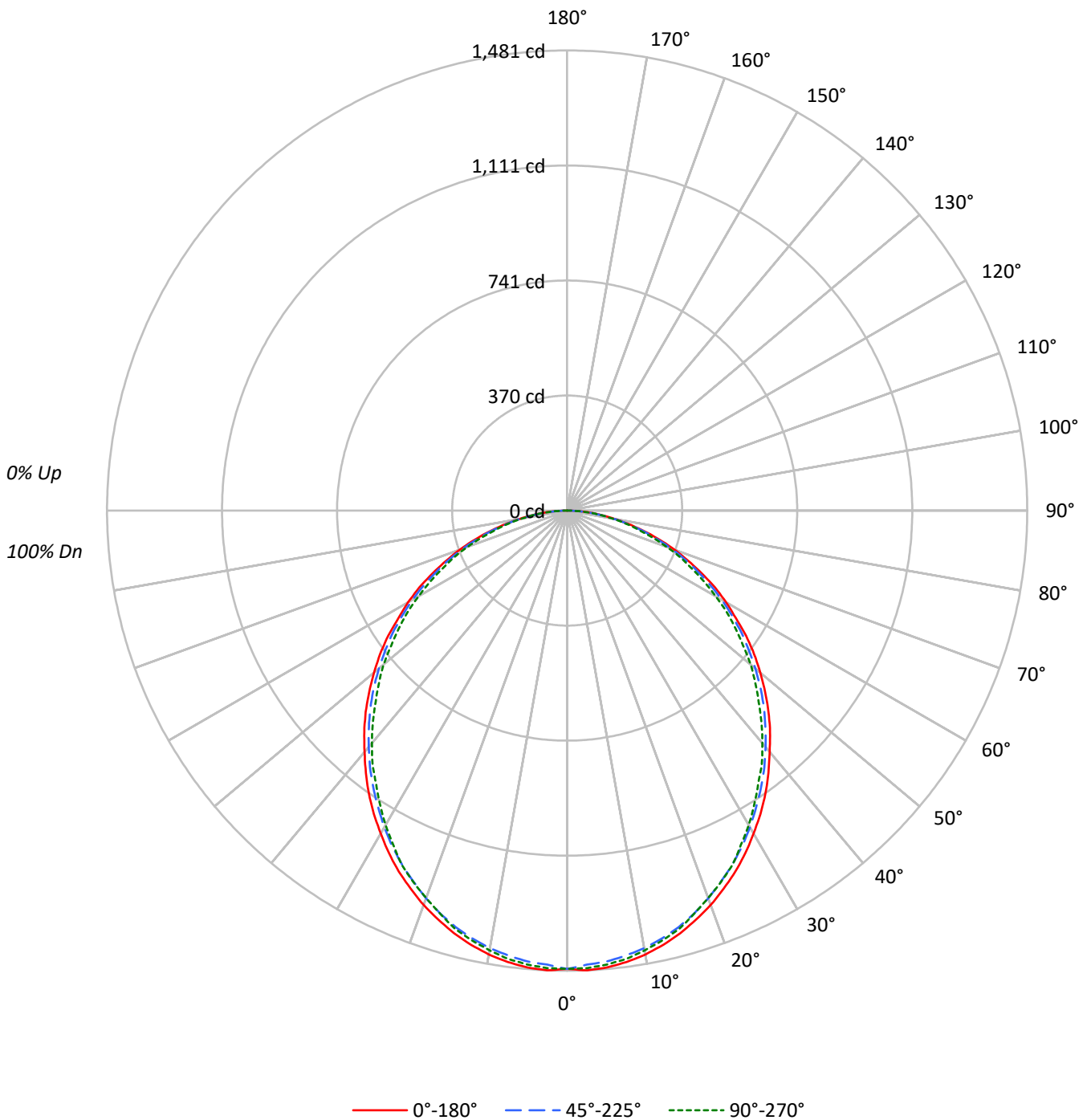
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3902.0 lumens  
Efficiency: N/A  
Efficacy: 123.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.5  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84					84			
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72	70					70			
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59					59			
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53	51					51			
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44					44			
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39					39			
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34					34			
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30					30			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29	27					27			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25					25			

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

	0°	45°	90°
0°	17879	17879	17879
5°	17962	17724	17844
10°	17856	17601	17691
15°	17670	17410	17487
20°	17427	17127	17112
25°	17140	16815	16832
30°	16798	16475	16356
35°	16463	16104	15870
40°	16046	15720	15469
45°	15716	15342	14946
50°	15295	14905	14537
55°	14852	14467	13979
60°	14327	13944	13384
65°	13707	13288	12729
70°	13014	12585	12067
75°	12073	11732	11104
80°	10861	10610	10268
85°	10153	9638	9304

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 15716 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.2	3.6
10°-20°	393.5	10.1
20°-30°	582.6	14.9
30°-40°	683.3	17.5
40°-50°	690.8	17.7
50°-60°	610.9	15.7
60°-70°	458.8	11.8
70°-80°	264.4	6.8
80°-90°	78.4	2.0
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°	1115.3	28.6
0°-40°	1798.6	46.1
0°-60°	3100.3	79.5
0°-90°	3902.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3902.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1475	1475	1475	1475	1475	
5°	1476	1470	1457	1469	1466	140
15°	1408	1401	1387	1397	1394	397
25°	1282	1272	1257	1263	1258	590
35°	1113	1103	1088	1085	1072	695
45°	917	910	895	883	872	707
55°	703	698	685	671	662	627
65°	478	474	463	451	444	474
75°	258	255	250	243	237	273
85°	73	72	69	68	67	82
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1475.0	1475.0	1475.0	1475.0	1475.0
2.5°	1481.1	1476.2	1462.8	1476.2	1473.8
5°	1476.2	1470.1	1456.7	1468.9	1466.5
7.5°	1465.3	1459.2	1444.6	1458.0	1455.5
10°	1450.7	1444.6	1430.0	1440.9	1437.3
12.5°	1431.2	1425.1	1410.5	1419.0	1416.6
15°	1408.1	1400.8	1387.4	1397.2	1393.5
17.5°	1380.1	1374.1	1359.5	1371.6	1360.7
20°	1351.0	1344.9	1327.8	1338.8	1326.6
22.5°	1316.9	1309.6	1292.6	1299.9	1293.8
25°	1281.6	1271.9	1257.3	1263.4	1258.5
27.5°	1242.7	1233.0	1218.4	1220.8	1212.3
30°	1200.2	1191.7	1177.1	1179.5	1168.6
32.5°	1157.6	1150.3	1132.1	1132.1	1121.1
35°	1112.6	1102.9	1088.3	1084.7	1072.5
37.5°	1064.0	1055.5	1042.1	1036.0	1028.7
40°	1014.1	1009.3	993.5	986.2	977.6
42.5°	966.7	958.2	944.8	935.1	925.4
45°	916.8	909.6	895.0	882.8	871.9
47.5°	864.6	858.5	843.9	830.5	822.0
50°	811.1	806.2	790.4	775.8	770.9
52.5°	758.8	752.7	736.9	723.5	713.8
55°	702.8	698.0	684.6	671.2	661.5
57.5°	643.3	643.3	628.7	616.5	609.2
60°	591.0	584.9	575.2	561.8	552.1
62.5°	536.2	532.6	519.2	505.8	498.6
65°	477.9	474.2	463.3	451.1	443.8
67.5°	420.7	419.5	409.8	400.1	395.2
70°	367.2	364.8	355.1	345.3	340.5
72.5°	312.5	310.1	301.6	293.1	287.0
75°	257.8	255.4	250.5	243.2	237.1
77.5°	204.3	204.3	198.2	195.8	193.3
80°	155.6	154.4	152.0	149.6	147.1
82.5°	111.9	110.7	108.2	107.0	107.0
85°	73.0	71.7	69.3	68.1	66.9
87.5°	37.7	35.3	34.0	31.6	30.4
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	21.47	23.10	21.83	23.41	23.72	21.16	22.78	21.52	23.10	23.41
	3H	23.27	24.74	23.64	25.06	25.42	22.91	24.38	23.29	24.71	25.07
	4H	23.94	25.33	24.34	25.68	26.05	23.56	24.95	23.96	25.30	25.67
	6H	24.44	25.73	24.85	26.09	26.48	24.06	25.35	24.48	25.71	26.10
	8H	24.61	25.84	25.03	26.22	26.62	24.23	25.46	24.66	25.85	26.25
	12H	24.73	25.91	25.16	26.29	26.72	24.36	25.53	24.79	25.91	26.34
4H	2H	22.06	23.45	22.46	23.79	24.17	21.81	23.20	22.21	23.55	23.92
	3H	24.09	25.25	24.50	25.64	26.04	23.79	24.95	24.20	25.35	25.75
	4H	24.90	25.95	25.33	26.36	26.80	24.57	25.62	25.00	26.03	26.47
	6H	25.53	26.44	25.98	26.88	27.34	25.20	26.12	25.65	26.56	27.01
	8H	25.74	26.60	26.20	27.05	27.51	25.42	26.28	25.88	26.72	27.19
	12H	25.92	26.69	26.40	27.17	27.64	25.59	26.36	26.07	26.84	27.31
8H	4H	25.19	26.05	25.65	26.49	26.96	24.90	25.76	25.36	26.20	26.67
	6H	25.94	26.66	26.44	27.15	27.62	25.66	26.37	26.15	26.86	27.34
	8H	26.24	26.88	26.75	27.39	27.88	25.96	26.60	26.47	27.11	27.59
	12H	26.50	27.07	27.01	27.56	28.12	26.21	26.77	26.71	27.26	27.82
12H	4H	25.22	26.00	25.70	26.47	26.94	24.94	25.72	25.42	26.19	26.66
	6H	26.00	26.64	26.51	27.15	27.63	25.72	26.37	26.23	26.87	27.36
	8H	26.36	26.92	26.86	27.42	27.98	26.08	26.65	26.59	27.14	27.70