

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: P243305

Luminaire Tested: S123DRP-H1165D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243305  
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-H1165D930-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 90 CRI LEDS  
Ballast/Driver: -

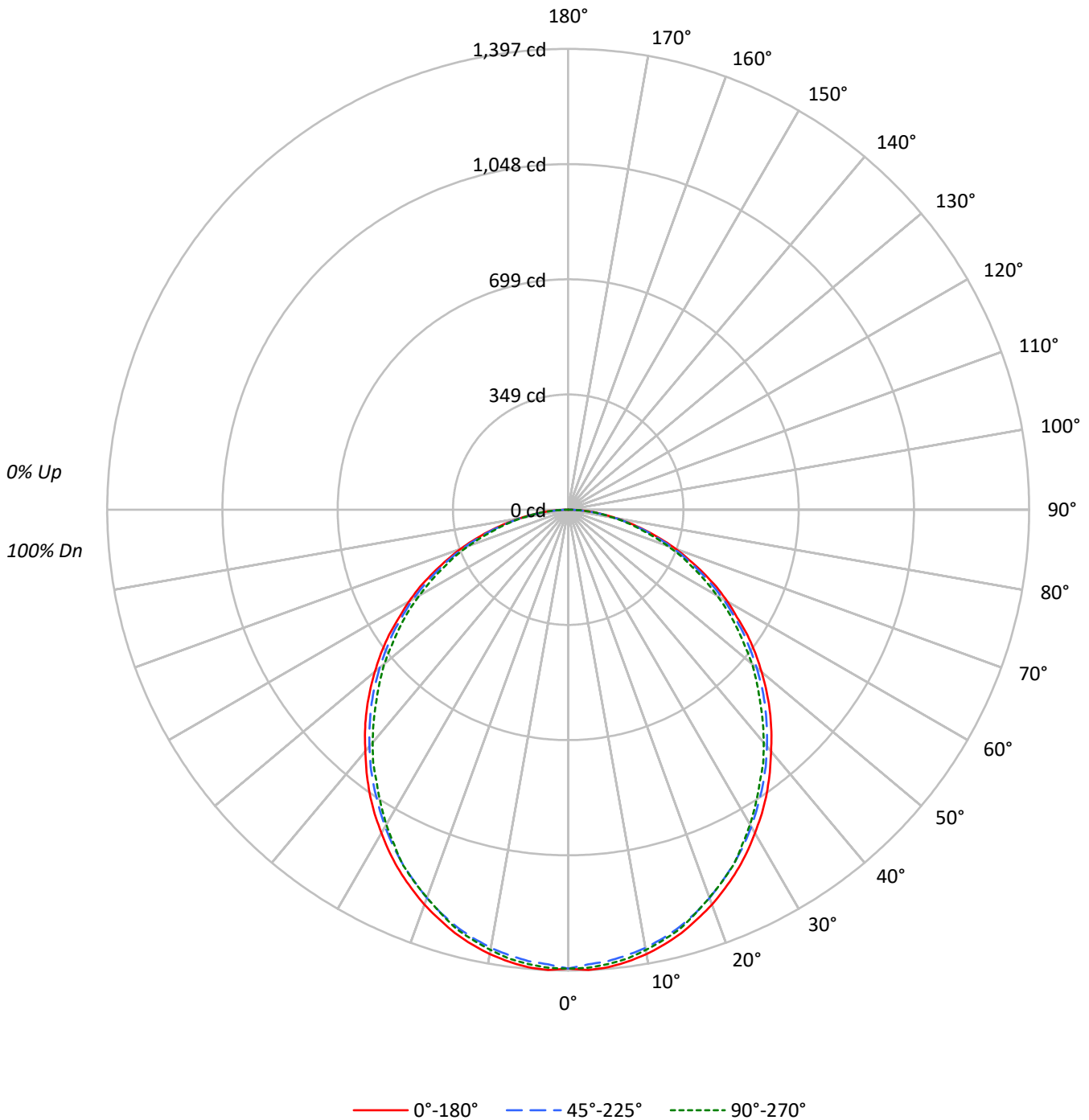
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3680.0 lumens  
Efficiency: N/A  
Efficacy: 97.6 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): 37.7  
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°	16862	16862	16862
5°	16940	16717	16829
10°	16840	16600	16684
15°	16665	16420	16492
20°	16435	16154	16139
25°	16166	15859	15875
30°	15843	15537	15425
35°	15527	15188	14967
40°	15133	14825	14589
45°	14823	14470	14096
50°	14424	14056	13711
55°	14009	13645	13185
60°	13513	13149	12623
65°	12927	12531	12006
70°	12273	11869	11380
75°	11385	11062	10472
80°	10247	10010	9689
85°	9568	9096	8776

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14823 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.2	3.6
10°-20°	371.1	10.1
20°-30°	549.5	14.9
30°-40°	644.4	17.5
40°-50°	651.5	17.7
50°-60°	576.2	15.7
60°-70°	432.7	11.8
70°-80°	249.4	6.8
80°-90°	74.0	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°	1051.8	28.6
0°-40°	1696.3	46.1
0°-60°	2923.9	79.5
0°-90°	3680.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3680.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1391	1391	1391	1391	1391	
5°	1392	1386	1374	1385	1383	132
15°	1328	1321	1308	1318	1314	374
25°	1209	1200	1186	1192	1187	556
35°	1049	1040	1026	1023	1012	656
45°	865	858	844	833	822	666
55°	663	658	646	633	624	592
65°	451	447	437	426	419	447
75°	243	241	236	229	224	258
85°	69	68	65	64	63	77
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1391.1	1391.1	1391.1	1391.1	1391.1
2.5°	1396.8	1392.2	1379.6	1392.2	1389.9
5°	1392.2	1386.5	1373.9	1385.4	1383.1
7.5°	1381.9	1376.2	1362.4	1375.0	1372.7
10°	1368.2	1362.4	1348.7	1359.0	1355.5
12.5°	1349.8	1344.1	1330.3	1338.3	1336.0
15°	1328.0	1321.1	1308.5	1317.7	1314.2
17.5°	1301.6	1295.9	1282.1	1293.6	1283.3
20°	1274.1	1268.4	1252.3	1262.6	1251.2
22.5°	1242.0	1235.1	1219.1	1225.9	1220.2
25°	1208.7	1199.6	1185.8	1191.5	1187.0
27.5°	1172.0	1162.9	1149.1	1151.4	1143.4
30°	1131.9	1123.9	1110.1	1112.4	1102.1
32.5°	1091.8	1084.9	1067.7	1067.7	1057.4
35°	1049.3	1040.2	1026.4	1023.0	1011.5
37.5°	1003.5	995.4	982.8	977.1	970.2
40°	956.4	951.9	936.9	930.1	922.0
42.5°	911.7	903.7	891.1	881.9	872.7
45°	864.7	857.8	844.1	832.6	822.3
47.5°	815.4	809.7	795.9	783.3	775.2
50°	764.9	760.3	745.4	731.7	727.1
52.5°	715.6	709.9	695.0	682.4	673.2
55°	662.9	658.3	645.7	633.0	623.9
57.5°	606.7	606.7	592.9	581.4	574.6
60°	557.4	551.6	542.4	529.8	520.7
62.5°	505.7	502.3	489.7	477.1	470.2
65°	450.7	447.3	436.9	425.5	418.6
67.5°	396.8	395.7	386.5	377.3	372.7
70°	346.3	344.0	334.9	325.7	321.1
72.5°	294.7	292.4	284.4	276.4	270.6
75°	243.1	240.8	236.2	229.4	223.6
77.5°	192.7	192.7	186.9	184.6	182.3
80°	146.8	145.6	143.4	141.1	138.8
82.5°	105.5	104.4	102.1	100.9	100.9
85°	68.8	67.7	65.4	64.2	63.1
87.5°	35.6	33.3	32.1	29.8	28.7
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	21.27	22.89	21.63	23.21	23.52	20.96	22.58	21.32	22.89	23.21
	3H	23.06	24.53	23.44	24.86	25.22	22.71	24.18	23.09	24.51	24.87
	4H	23.74	25.13	24.14	25.47	25.85	23.36	24.74	23.76	25.09	25.47
	6H	24.24	25.52	24.65	25.89	26.28	23.86	25.14	24.27	25.51	25.90
	8H	24.41	25.63	24.83	26.02	26.42	24.03	25.26	24.46	25.65	26.04
	12H	24.53	25.70	24.96	26.09	26.51	24.15	25.33	24.58	25.71	26.14
4H	2H	21.86	23.24	22.26	23.59	23.96	21.61	23.00	22.01	23.34	23.72
	3H	23.88	25.04	24.29	25.44	25.84	23.59	24.75	24.00	25.14	25.54
	4H	24.69	25.74	25.12	26.16	26.59	24.36	25.42	24.80	25.83	26.26
	6H	25.32	26.24	25.78	26.68	27.14	24.99	25.91	25.45	26.35	26.81
	8H	25.54	26.40	26.00	26.84	27.31	25.22	26.08	25.68	26.52	26.98
	12H	25.71	26.49	26.19	26.96	27.43	25.38	26.16	25.86	26.63	27.10
8H	4H	24.99	25.85	25.45	26.29	26.75	24.70	25.56	25.16	26.00	26.47
	6H	25.74	26.46	26.23	26.94	27.42	25.45	26.17	25.95	26.66	27.13
	8H	26.04	26.68	26.55	27.19	27.67	25.75	26.40	26.26	26.90	27.39
	12H	26.30	26.86	26.80	27.35	27.92	26.00	26.57	26.51	27.06	27.62
12H	4H	25.02	25.79	25.50	26.27	26.74	24.74	25.51	25.22	25.99	26.46
	6H	25.80	26.44	26.30	26.95	27.43	25.52	26.16	26.03	26.67	27.16
	8H	26.15	26.72	26.66	27.21	27.77	25.88	26.45	26.39	26.94	27.50