

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P925475

Luminaire Tested: DFN2DIP-SQ3F0-050D040US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P925475
REPORT IS A COMBINATION OF REPORTS P901384 AND P898289
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-050D040US950-RLLONL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

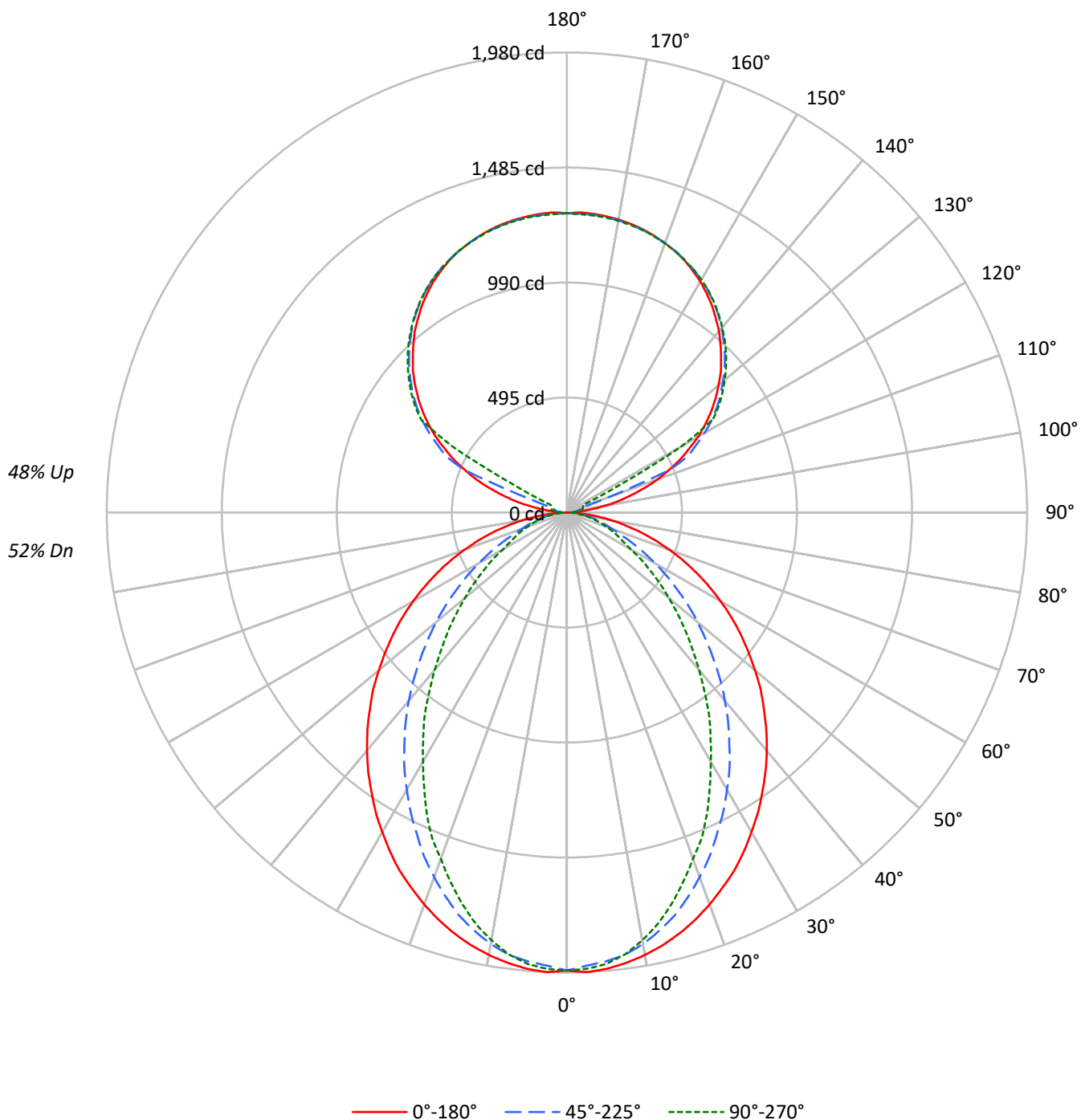
Lumens per Lamp: N/A
Luminaire Lumens: 7832.4 lumens
Efficiency: N/A
Efficacy: 108.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 72.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	108	108	108	108	99	99	99	99	84	84	84	70	70	70	58	58	58
1	99	95	91	87	91	88	84	82	75	72	70	63	61	60	52	51	50
2	90	83	77	72	83	77	72	68	66	62	59	56	53	51	46	44	43
3	83	74	66	61	76	68	62	57	59	54	50	50	46	43	41	39	37
4	76	65	58	52	70	61	54	49	52	47	43	45	41	38	37	35	32
5	70	59	51	45	64	55	48	42	47	42	38	40	36	33	34	31	28
6	65	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25
7	60	48	40	35	55	45	38	33	39	33	29	33	29	26	28	25	23
8	56	44	36	31	51	41	34	29	36	30	26	31	26	23	26	23	20
9	52	40	32	28	48	37	31	26	33	27	24	28	24	21	24	21	19
10	48	37	30	25	45	34	28	24	30	25	21	26	22	19	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2259	2259	2259
5°	2261	2222	2237
10°	2237	2176	2163
15°	2205	2103	2050
20°	2163	2003	1911
25°	2120	1890	1777
30°	2062	1775	1608
35°	2006	1651	1459
40°	1948	1523	1288
45°	1881	1382	1134
50°	1812	1239	983
55°	1740	1086	838
60°	1656	927	689
65°	1560	766	619
70°	1443	615	559
75°	1296	539	507
80°	1082	448	437
85°	734	292	325

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1881 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.8	2.4
10°-20°	507.2	6.5
20°-30°	712.1	9.1
30°-40°	776.3	9.9
40°-50°	713.5	9.1
50°-60°	560.3	7.2
60°-70°	364.7	4.7
70°-80°	187.7	2.4
80°-90°	50.2	0.6
90°-100°	42.5	0.5
100°-110°	158.3	2.0
110°-120°	419.9	5.4
120°-130°	696.4	8.9
130°-140°	739.7	9.4
140°-150°	687.5	8.8
150°-160°	552.7	7.1
160°-170°	356.1	4.5
170°-180°	122.6	1.6
0°-30°	1404.1	17.9
0°-40°	2180.4	27.8
0°-60°	3454.1	44.1
0°-90°	4056.8	51.8
90°-120°	620.6	7.9
90°-150°	2744.1	35.0
90°-180°	3776.0	48.2
0°-180°	7832.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1971	1971	1971	1971	1971	
5°	1971	1963	1939	1955	1950	187
15°	1875	1855	1795	1761	1743	528
25°	1702	1645	1527	1454	1427	783
35°	1467	1376	1219	1106	1067	918
45°	1199	1079	892	765	722	926
55°	912	772	580	473	439	815
65°	616	471	310	250	244	610
75°	328	203	143	130	128	347
85°	77	39	34	34	34	88
90°	1	11	19	23	25	7
95°	60	30	36	41	40	72
105°	283	311	57	67	71	303
115°	536	552	575	144	76	527
125°	758	770	787	794	797	676
135°	938	952	961	970	968	724
145°	1088	1087	1102	1109	1104	680
155°	1198	1189	1200	1206	1198	552
165°	1262	1256	1259	1266	1259	356
175°	1291	1284	1286	1292	1283	123
180°	1288	1288	1288	1288	1288	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1971.4	1971.4	1971.4	1971.4	1971.4
2.5°	1980.3	1971.4	1951.8	1969.7	1966.1
5°	1971.4	1962.6	1939.3	1955.3	1950.1
7.5°	1955.3	1944.7	1919.7	1926.8	1917.8
10°	1933.9	1921.5	1885.9	1880.4	1869.7
12.5°	1907.2	1891.2	1842.9	1832.3	1812.6
15°	1875.1	1855.4	1794.9	1761.0	1743.1
17.5°	1837.6	1809.1	1734.1	1694.9	1666.3
20°	1794.9	1759.1	1669.9	1625.4	1586.0
22.5°	1748.5	1707.4	1603.9	1543.3	1516.6
25°	1702.0	1644.9	1527.2	1454.1	1427.2
27.5°	1646.8	1586.0	1455.8	1371.9	1330.9
30°	1587.9	1520.0	1377.3	1286.4	1238.1
32.5°	1530.8	1448.6	1302.5	1195.4	1150.7
35°	1466.6	1375.6	1218.6	1106.2	1066.9
37.5°	1404.1	1305.9	1140.1	1016.9	972.4
40°	1338.1	1231.1	1057.9	931.3	884.9
42.5°	1270.3	1156.2	975.9	843.8	799.4
45°	1199.0	1079.4	892.1	765.3	722.5
47.5°	1131.2	1004.6	811.9	685.1	645.9
50°	1056.3	929.6	733.3	610.1	572.8
52.5°	983.0	849.2	658.4	540.6	506.8
55°	911.6	772.5	579.7	472.8	438.9
57.5°	838.6	695.8	510.3	410.4	381.8
60°	763.6	620.9	437.0	346.2	317.6
62.5°	690.5	547.8	374.6	289.1	274.8
65°	615.5	471.0	310.4	249.9	244.4
67.5°	544.2	399.6	249.9	219.4	214.1
70°	469.3	330.1	206.9	189.1	181.9
72.5°	397.9	265.8	173.1	158.8	155.2
75°	328.3	203.3	142.7	130.2	128.5
77.5°	258.7	144.4	112.5	105.2	101.6
80°	194.4	103.5	85.6	78.5	78.5
82.5°	135.6	69.6	58.9	55.2	55.2
85°	76.7	39.2	33.9	33.9	33.9
87.5°	28.6	14.2	14.2	12.5	12.5
90°	0.9	11.2	18.6	23.4	25.1
92.5°	23.4	19.6	22.3	24.2	25.1
95°	60.5	29.8	36.3	41.0	40.1
97.5°	109.0	32.6	47.5	50.4	51.2
100°	164.9	37.3	53.1	60.5	62.4
102.5°	226.4	224.7	55.0	65.2	68.0
105°	283.2	311.3	56.9	67.1	70.8
107.5°	349.5	372.7	58.8	69.0	72.7
110°	412.9	432.4	163.1	69.9	73.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	472.5	489.2	473.4	71.7	74.6
115°	535.8	551.6	575.0	143.5	76.5
117.5°	590.8	609.4	625.3	492.0	247.8
120°	652.3	666.3	683.1	694.3	568.5
122.5°	704.4	719.4	738.1	743.6	744.6
125°	757.6	769.8	787.4	794.0	796.8
127.5°	806.0	819.1	833.1	842.5	843.3
130°	851.7	866.7	876.8	887.1	886.3
132.5°	898.3	910.5	920.7	929.1	928.2
135°	937.5	952.5	960.8	970.1	968.3
137.5°	978.4	989.6	999.0	1008.3	1005.5
140°	1018.5	1026.0	1036.2	1044.6	1040.0
142.5°	1052.2	1058.7	1070.8	1078.1	1073.5
145°	1087.6	1086.6	1102.3	1108.9	1104.3
147.5°	1118.2	1115.4	1131.3	1135.9	1132.3
150°	1148.0	1141.6	1156.5	1162.1	1157.4
152.5°	1173.2	1165.8	1179.7	1185.3	1178.9
155°	1197.5	1189.2	1200.3	1205.9	1198.4
157.5°	1217.0	1209.6	1218.1	1224.6	1217.0
160°	1233.8	1228.2	1233.8	1239.3	1232.9
162.5°	1248.7	1243.2	1247.8	1254.3	1245.9
165°	1261.8	1256.2	1259.0	1265.5	1259.0
167.5°	1272.1	1266.3	1269.3	1275.8	1267.4
170°	1280.5	1274.8	1276.6	1283.2	1274.8
172.5°	1286.0	1280.5	1282.4	1288.9	1280.5
175°	1290.6	1284.1	1286.0	1292.5	1283.2
177.5°	1292.5	1286.0	1286.9	1293.5	1285.1
180°	1287.9	1287.9	1287.9	1287.9	1287.9

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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	10.11	10.96	11.06	11.92	13.16	6.07	6.92	7.02	7.88	9.12
	3H	11.78	12.54	12.74	13.51	14.78	7.26	8.01	8.22	8.98	10.25
	4H	12.39	13.11	13.37	14.08	15.36	7.70	8.42	8.68	9.39	10.67
	6H	12.81	13.47	13.79	14.45	15.74	8.02	8.67	9.00	9.65	10.94
	8H	12.93	13.56	13.93	14.55	15.84	8.10	8.73	9.10	9.72	11.01
	12H	13.00	13.59	13.99	14.58	15.89	8.15	8.74	9.14	9.73	11.04
4H	2H	10.13	10.84	11.11	11.82	13.10	6.67	7.38	7.65	8.35	9.63
	3H	11.95	12.55	12.94	13.55	14.84	8.01	8.60	9.00	9.61	10.90
	4H	12.64	13.19	13.64	14.18	15.50	8.55	9.10	9.55	10.09	11.41
	6H	13.15	13.62	14.16	14.64	15.96	8.97	9.43	9.98	10.45	11.77
	8H	13.33	13.76	14.34	14.77	16.10	9.09	9.53	10.10	10.54	11.87
	12H	13.42	13.81	14.45	14.84	16.18	9.15	9.55	10.18	10.57	11.91
8H	4H	12.61	13.05	13.62	14.06	15.39	8.83	9.27	9.84	10.28	11.61
	6H	13.17	13.53	14.21	14.59	15.91	9.34	9.70	10.38	10.76	12.08
	8H	13.39	13.70	14.43	14.74	16.09	9.53	9.84	10.57	10.88	12.23
	12H	13.52	13.80	14.57	14.83	16.22	9.64	9.92	10.69	10.95	12.34
12H	4H	12.56	12.96	13.59	13.98	15.32	8.84	9.23	9.86	10.26	11.59
	6H	13.15	13.46	14.19	14.50	15.85	9.39	9.71	10.43	10.75	12.09
	8H	13.36	13.64	14.41	14.68	16.07	9.60	9.87	10.64	10.91	12.30