

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: P917298

Luminaire Tested: DFN2DIP-SQ3F0-050D060US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P917298
REPORT IS A COMBINATION OF REPORTS P899900 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-050D060US930-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

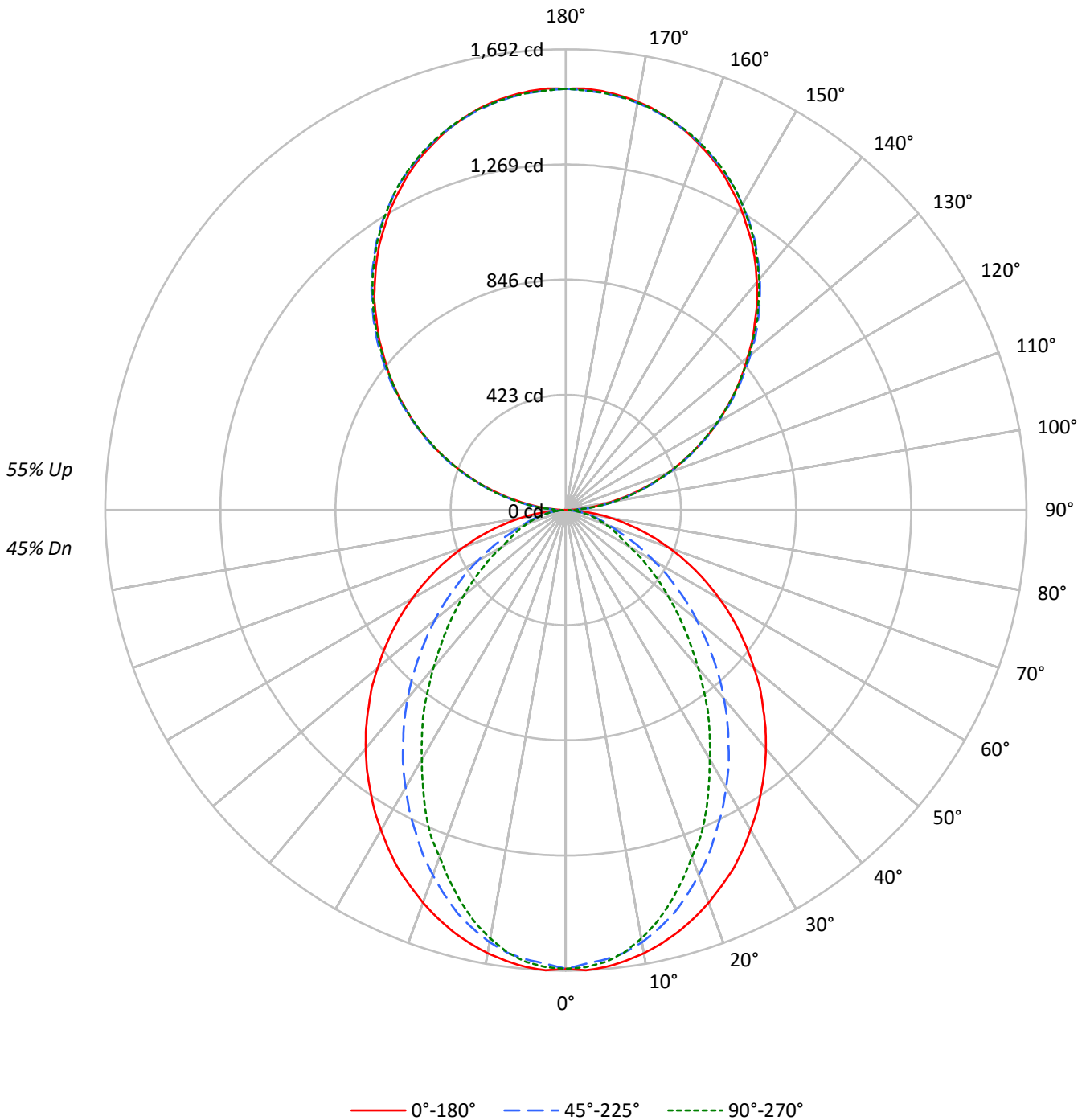
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7794.2 lumens
Efficiency: N/A
Efficacy: 89.3 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): 87.3
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45	45	45	45
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38	38	38	38
2	89	82	76	71	81	75	70	66	63	59	56	51	49	47	41	39	38	33	33	33	33
3	81	72	65	59	74	66	60	55	56	51	47	46	43	40	37	34	33	28	28	28	28
4	74	64	56	51	68	59	52	47	50	45	41	41	37	35	33	30	28	25	25	25	25
5	68	57	49	44	63	53	46	41	45	39	35	37	33	30	30	27	25	22	22	22	22
6	63	51	44	38	58	48	41	36	40	35	31	34	30	27	27	24	22	19	19	19	19
7	58	47	39	33	54	43	36	31	37	31	28	31	27	24	25	22	20	17	17	17	17
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16	16	16	16
9	51	39	31	27	46	36	29	25	31	26	22	26	22	19	21	18	16	14	14	14	14
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	20	17	15	13	13	13	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1930	1930	1930
5°	1932	1899	1911
10°	1912	1860	1848
15°	1884	1797	1752
20°	1848	1711	1633
25°	1811	1615	1519
30°	1762	1517	1374
35°	1714	1411	1247
40°	1665	1302	1101
45°	1608	1181	969
50°	1549	1059	840
55°	1487	929	716
60°	1416	793	589
65°	1333	655	529
70°	1233	526	478
75°	1107	461	433
80°	925	382	374
85°	627	249	277

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1608 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.9	2.0
10°-20°	433.5	5.6
20°-30°	608.6	7.8
30°-40°	663.4	8.5
40°-50°	609.7	7.8
50°-60°	478.8	6.1
60°-70°	311.7	4.0
70°-80°	160.4	2.1
80°-90°	45.3	0.6
90°-100°	95.7	1.2
100°-110°	304.2	3.9
110°-120°	520.6	6.7
120°-130°	684.6	8.8
130°-140°	768.4	9.9
140°-150°	753.5	9.7
150°-160°	632.1	8.1
160°-170°	419.2	5.4
170°-180°	146.5	1.9
0°-30°	1200.0	15.4
0°-40°	1863.4	23.9
0°-60°	2951.9	37.9
0°-90°	3469.4	44.5
90°-120°	920.5	11.8
90°-150°	3127.0	40.1
90°-180°	4325.0	55.5
0°-180°	7794.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1685	1685	1685	1685	1685	
5°	1685	1677	1657	1671	1667	160
15°	1602	1586	1534	1505	1490	452
25°	1455	1406	1305	1243	1220	669
35°	1253	1176	1042	945	912	784
45°	1025	922	762	654	617	791
55°	779	660	496	404	375	696
65°	526	402	265	214	209	521
75°	280	174	122	111	110	297
85°	66	34	29	29	29	75
90°	1	17	46	43	44	8
95°	68	81	84	84	81	76
105°	281	284	287	290	290	296
115°	522	530	528	526	522	517
125°	760	771	768	764	762	679
135°	983	997	1000	999	995	760
145°	1193	1202	1210	1211	1206	745
155°	1364	1368	1372	1379	1374	628
165°	1484	1483	1483	1492	1486	419
175°	1544	1541	1538	1547	1539	147
180°	1547	1547	1547	1547	1547	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1684.8	1684.8	1684.8	1684.8	1684.8
2.5°	1692.4	1684.8	1668.0	1683.3	1680.2
5°	1684.8	1677.2	1657.3	1671.0	1666.6
7.5°	1671.0	1662.0	1640.6	1646.7	1639.0
10°	1652.8	1642.1	1611.7	1607.0	1597.9
12.5°	1629.9	1616.2	1575.0	1565.9	1549.1
15°	1602.5	1585.7	1533.9	1505.0	1489.7
17.5°	1570.4	1546.1	1482.0	1448.5	1424.0
20°	1533.9	1503.3	1427.1	1389.1	1355.4
22.5°	1494.3	1459.1	1370.7	1318.9	1296.1
25°	1454.6	1405.7	1305.1	1242.7	1219.7
27.5°	1407.4	1355.4	1244.1	1172.5	1137.4
30°	1357.1	1299.0	1177.0	1099.3	1058.1
32.5°	1308.2	1238.0	1113.1	1021.6	983.4
35°	1253.4	1175.6	1041.5	945.3	911.7
37.5°	1200.0	1116.1	974.4	869.0	831.0
40°	1143.5	1052.1	904.1	795.9	756.3
42.5°	1085.7	988.1	834.1	721.1	683.1
45°	1024.7	922.4	762.4	654.0	617.4
47.5°	966.7	858.5	693.8	585.5	552.0
50°	902.7	794.4	626.7	521.4	489.5
52.5°	840.1	725.7	562.6	462.0	433.1
55°	779.1	660.1	495.5	404.1	375.1
57.5°	716.6	594.7	436.1	350.7	326.3
60°	652.6	530.6	373.5	295.9	271.4
62.5°	590.1	468.1	320.2	247.0	234.9
65°	526.0	402.5	265.3	213.5	208.9
67.5°	465.0	341.5	213.5	187.5	183.0
70°	401.0	282.1	176.8	161.6	155.5
72.5°	340.1	227.1	147.9	135.7	132.6
75°	280.5	173.7	122.0	111.3	109.8
77.5°	221.1	123.4	96.1	89.9	86.8
80°	166.2	88.5	73.1	67.1	67.1
82.5°	115.9	59.5	50.3	47.2	47.2
85°	65.5	33.5	28.9	28.9	28.9
87.5°	24.5	12.1	12.1	10.7	10.7
90°	1.4	16.8	45.7	42.9	44.3
92.5°	28.9	39.2	40.6	42.0	42.0
95°	68.1	81.1	83.5	83.5	81.1
97.5°	113.3	125.5	130.6	130.6	130.6
100°	165.6	176.3	180.0	180.0	178.6
102.5°	220.6	228.5	233.7	235.1	233.7
105°	280.8	284.5	287.3	289.7	289.7
107.5°	340.5	346.1	346.1	347.0	340.5
110°	398.4	405.8	405.8	405.8	402.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	460.8	468.7	467.3	463.6	460.8
115°	522.4	529.9	527.5	526.1	522.4
117.5°	583.5	593.8	587.2	583.5	579.8
120°	645.1	655.3	645.1	645.1	640.8
122.5°	701.0	714.0	707.5	703.8	701.0
125°	759.8	771.4	767.7	763.5	762.1
127.5°	817.2	831.6	826.5	820.9	817.2
130°	870.8	887.6	885.3	882.5	877.3
132.5°	931.0	944.0	944.9	938.4	934.7
135°	982.8	997.2	1000.0	998.6	994.8
137.5°	1040.6	1052.2	1054.6	1053.6	1048.1
140°	1091.4	1103.1	1109.6	1109.6	1104.5
142.5°	1143.6	1155.3	1159.0	1160.4	1155.3
145°	1193.1	1202.4	1209.9	1211.3	1206.2
147.5°	1237.4	1249.0	1254.7	1256.9	1251.8
150°	1283.1	1291.0	1296.2	1300.3	1296.2
152.5°	1323.6	1331.6	1338.1	1343.3	1338.1
155°	1364.2	1368.0	1372.1	1378.8	1374.5
157.5°	1399.2	1402.1	1404.4	1413.7	1407.2
160°	1430.5	1433.3	1434.7	1442.6	1437.0
162.5°	1459.4	1459.4	1460.8	1469.7	1463.1
165°	1484.1	1482.7	1482.7	1492.1	1485.6
167.5°	1506.5	1502.4	1502.4	1511.6	1505.1
170°	1523.3	1519.6	1518.2	1527.5	1519.6
172.5°	1535.0	1531.2	1529.8	1539.1	1531.2
175°	1544.3	1540.6	1537.7	1547.1	1539.1
177.5°	1549.4	1545.7	1542.9	1550.8	1542.9
180°	1547.1	1547.1	1547.1	1547.1	1547.1



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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	8.86	9.65	9.87	10.66	12.01	4.82	5.61	5.83	6.62	7.97
	3H	10.53	11.24	11.55	12.26	13.63	6.00	6.71	7.02	7.73	9.10
	4H	11.13	11.80	12.17	12.83	14.21	6.44	7.11	7.48	8.14	9.52
	6H	11.55	12.16	12.59	13.19	14.58	6.76	7.37	7.80	8.40	9.79
	8H	11.67	12.26	12.72	13.30	14.69	6.84	7.43	7.89	8.47	9.86
	12H	11.73	12.29	12.78	13.33	14.74	6.88	7.44	7.93	8.48	9.89
4H	2H	8.87	9.54	9.91	10.57	11.94	5.41	6.08	6.45	7.10	8.48
	3H	10.69	11.25	11.74	12.30	13.69	6.75	7.30	7.80	8.36	9.75
	4H	11.38	11.89	12.43	12.93	14.35	7.29	7.80	8.34	8.84	10.26
	6H	11.89	12.32	12.95	13.39	14.80	7.70	8.13	8.76	9.20	10.61
	8H	12.06	12.47	13.12	13.53	14.95	7.82	8.23	8.89	9.29	10.72
	12H	12.15	12.52	13.23	13.59	15.02	7.88	8.25	8.96	9.33	10.75
8H	4H	11.34	11.75	12.41	12.81	14.23	7.56	7.97	8.63	9.03	10.46
	6H	11.90	12.24	12.99	13.34	14.76	8.07	8.41	9.16	9.51	10.93
	8H	12.11	12.41	13.21	13.50	14.94	8.26	8.55	9.35	9.64	11.08
	12H	12.25	12.51	13.34	13.59	15.07	8.37	8.63	9.46	9.71	11.19
12H	4H	11.29	11.66	12.37	12.73	14.16	7.57	7.93	8.65	9.01	10.44
	6H	11.88	12.17	12.97	13.26	14.70	8.12	8.41	9.21	9.50	10.94
	8H	12.09	12.35	13.19	13.43	14.91	8.32	8.58	9.42	9.66	11.14