

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: P914570

Luminaire Tested: DFN2DIP-SQ3F0-050D060US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P914570
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-SQ3F0-050D060US927-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

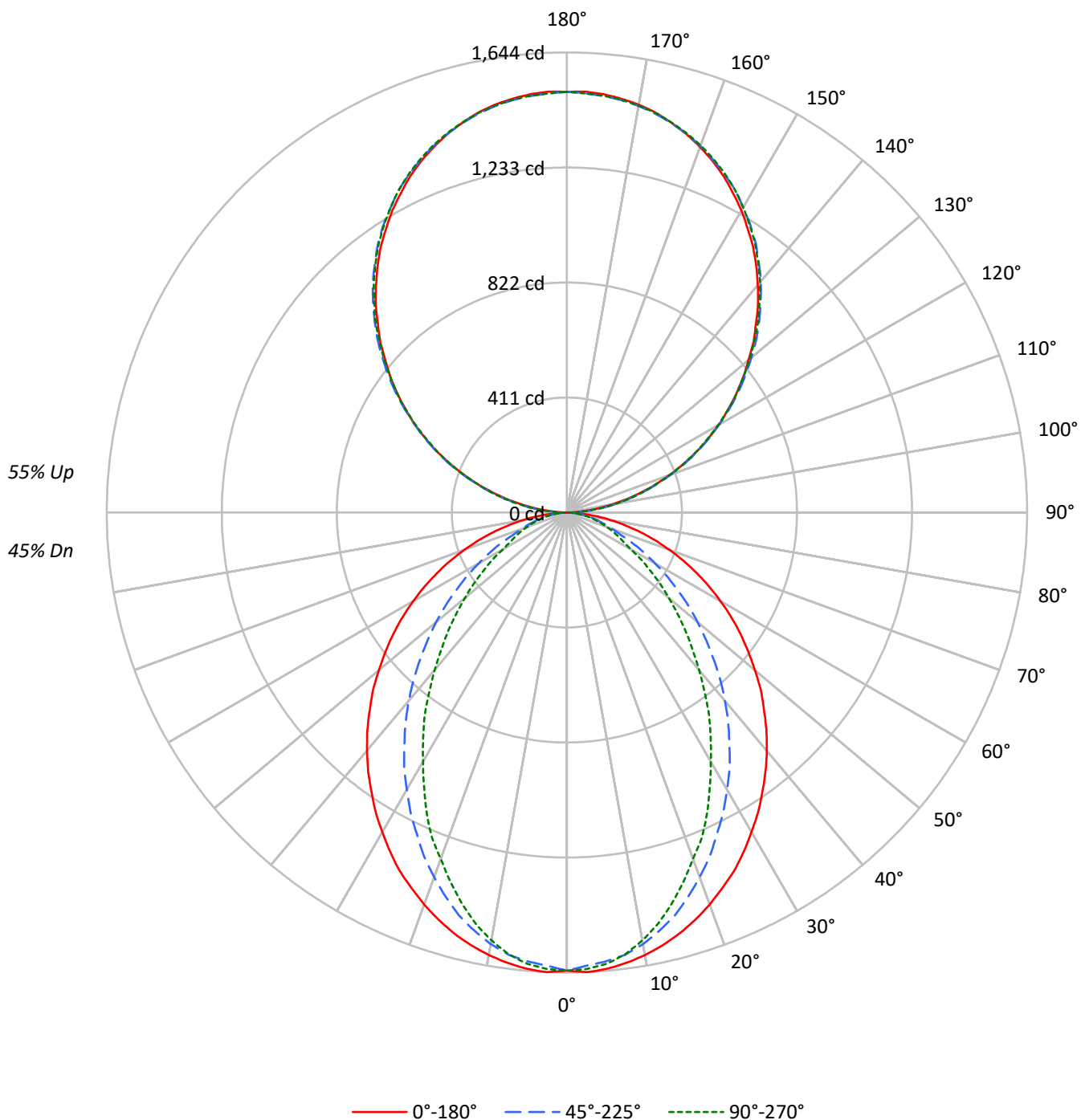
Lumens per Lamp: N/A
Luminaire Lumens: 7573.3 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1876	1876	1876
5°	1877	1845	1857
10°	1858	1807	1796
15°	1831	1746	1702
20°	1796	1663	1587
25°	1760	1569	1476
30°	1712	1474	1335
35°	1665	1371	1211
40°	1618	1265	1070
45°	1562	1147	941
50°	1505	1029	816
55°	1445	902	696
60°	1375	770	572
65°	1295	636	514
70°	1198	511	465
75°	1076	448	421
80°	899	372	363
85°	610	242	269

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1562 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.4	2.0
10°-20°	421.2	5.6
20°-30°	591.3	7.8
30°-40°	644.6	8.5
40°-50°	592.4	7.8
50°-60°	465.3	6.1
60°-70°	302.9	4.0
70°-80°	155.9	2.1
80°-90°	44.1	0.6
90°-100°	93.0	1.2
100°-110°	295.6	3.9
110°-120°	505.8	6.7
120°-130°	665.2	8.8
130°-140°	746.6	9.9
140°-150°	732.2	9.7
150°-160°	614.2	8.1
160°-170°	407.3	5.4
170°-180°	142.4	1.9
0°-30°	1165.9	15.4
0°-40°	1810.5	23.9
0°-60°	2868.2	37.9
0°-90°	3371.0	44.5
90°-120°	894.4	11.8
90°-150°	3038.4	40.1
90°-180°	4202.0	55.5
0°-180°	7573.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1637	1637	1637	1637	1637	
5°	1637	1630	1610	1624	1619	155
15°	1557	1541	1490	1462	1448	439
25°	1413	1366	1268	1207	1185	650
35°	1218	1142	1012	918	886	762
45°	996	896	741	636	600	769
55°	757	641	481	393	364	676
65°	511	391	258	208	203	507
75°	273	169	118	108	107	288
85°	64	33	28	28	28	73
90°	1	16	44	42	43	7
95°	66	79	81	81	79	74
105°	273	276	279	282	282	288
115°	508	515	512	511	508	502
125°	738	750	746	742	740	660
135°	955	969	972	970	967	738
145°	1159	1168	1176	1177	1172	724
155°	1326	1329	1333	1340	1336	610
165°	1442	1441	1441	1450	1443	407
175°	1500	1497	1494	1503	1496	143
180°	1503	1503	1503	1503	1503	

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CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US927-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1637.0	1637.0	1637.0	1637.0	1637.0
2.5°	1644.4	1637.0	1620.7	1635.6	1632.6
5°	1637.0	1629.7	1610.3	1623.7	1619.3
7.5°	1623.7	1614.9	1594.1	1600.0	1592.5
10°	1605.9	1595.5	1566.0	1561.5	1552.6
12.5°	1583.7	1570.4	1530.3	1521.5	1505.1
15°	1557.0	1540.7	1490.4	1462.3	1447.5
17.5°	1525.9	1502.2	1439.9	1407.4	1383.6
20°	1490.4	1460.7	1386.6	1349.7	1317.0
22.5°	1451.9	1417.8	1331.8	1281.5	1259.3
25°	1413.3	1365.9	1268.1	1207.4	1185.1
27.5°	1367.5	1317.0	1208.9	1139.2	1105.2
30°	1318.6	1262.2	1143.7	1068.2	1028.1
32.5°	1271.1	1202.9	1081.6	992.6	955.5
35°	1217.8	1142.2	1011.9	918.5	885.9
37.5°	1165.9	1084.4	946.7	844.4	807.5
40°	1111.1	1022.3	878.4	773.3	734.8
42.5°	1054.9	960.0	810.4	700.7	663.8
45°	995.6	896.3	740.8	635.5	599.9
47.5°	939.3	834.2	674.1	568.9	536.3
50°	877.1	771.9	608.9	506.6	475.6
52.5°	816.3	705.1	546.7	448.9	420.8
55°	757.0	641.4	481.4	392.6	364.5
57.5°	696.3	577.8	423.7	340.8	317.0
60°	634.1	515.6	362.9	287.5	263.7
62.5°	573.4	454.9	311.1	240.0	228.2
65°	511.1	391.1	257.8	207.5	203.0
67.5°	451.9	331.8	207.5	182.2	177.8
70°	389.7	274.1	171.8	157.0	151.1
72.5°	330.4	220.7	143.7	131.9	128.9
75°	272.6	168.8	118.5	108.1	106.7
77.5°	214.8	119.9	93.4	87.4	84.4
80°	161.4	86.0	71.1	65.2	65.2
82.5°	112.6	57.8	48.9	45.9	45.9
85°	63.7	32.6	28.1	28.1	28.1
87.5°	23.8	11.8	11.8	10.4	10.4
90°	1.3	16.3	44.4	41.7	43.0
92.5°	28.1	38.1	39.5	40.8	40.8
95°	66.1	78.8	81.1	81.1	78.8
97.5°	110.1	121.9	126.9	126.9	126.9
100°	160.9	171.3	174.9	174.9	173.6
102.5°	214.4	222.0	227.0	228.4	227.0
105°	272.8	276.5	279.2	281.5	281.5
107.5°	330.8	336.3	336.3	337.2	330.8
110°	387.1	394.3	394.3	394.3	390.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	447.7	455.4	454.1	450.4	447.7
115°	507.6	514.8	512.5	511.2	507.6
117.5°	567.0	576.9	570.5	567.0	563.3
120°	626.8	636.8	626.8	626.8	622.7
122.5°	681.1	693.8	687.5	683.9	681.1
125°	738.2	749.6	745.9	741.9	740.5
127.5°	794.0	808.0	803.0	797.6	794.0
130°	846.1	862.4	860.2	857.5	852.5
132.5°	904.6	917.3	918.1	911.8	908.2
135°	954.9	968.9	971.6	970.3	966.6
137.5°	1011.1	1022.4	1024.7	1023.7	1018.3
140°	1060.5	1071.8	1078.2	1078.2	1073.2
142.5°	1111.2	1122.5	1126.2	1127.5	1122.5
145°	1159.3	1168.3	1175.6	1176.9	1172.0
147.5°	1202.3	1213.6	1219.1	1221.3	1216.3
150°	1246.7	1254.4	1259.4	1263.4	1259.4
152.5°	1286.1	1293.9	1300.2	1305.2	1300.2
155°	1325.6	1329.2	1333.2	1339.7	1335.5
157.5°	1359.5	1362.3	1364.5	1373.6	1367.3
160°	1390.0	1392.7	1394.0	1401.7	1396.3
162.5°	1418.0	1418.0	1419.4	1428.0	1421.6
165°	1442.0	1440.7	1440.7	1449.8	1443.4
167.5°	1463.8	1459.8	1459.8	1468.8	1462.4
170°	1480.1	1476.5	1475.1	1484.2	1476.5
172.5°	1491.4	1487.8	1486.4	1495.5	1487.8
175°	1500.5	1496.9	1494.1	1503.2	1495.5
177.5°	1505.5	1501.9	1499.1	1506.8	1499.1
180°	1503.2	1503.2	1503.2	1503.2	1503.2

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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	8.76	9.55	9.77	10.56	11.91	4.72	5.51	5.73	6.52	7.87
	3H	10.43	11.14	11.45	12.16	13.53	5.90	6.61	6.92	7.63	9.00
	4H	11.03	11.70	12.07	12.73	14.11	6.35	7.01	7.38	8.04	9.42
	6H	11.45	12.06	12.49	13.09	14.48	6.66	7.27	7.70	8.30	9.69
	8H	11.57	12.16	12.62	13.20	14.59	6.74	7.33	7.79	8.37	9.76
	12H	11.63	12.19	12.68	13.23	14.64	6.78	7.34	7.83	8.38	9.79
4H	2H	8.77	9.44	9.81	10.47	11.84	5.31	5.98	6.35	7.00	8.38
	3H	10.59	11.15	11.64	12.20	13.59	6.65	7.20	7.70	8.26	9.65
	4H	11.28	11.79	12.33	12.83	14.25	7.19	7.70	8.24	8.74	10.16
	6H	11.79	12.22	12.85	13.29	14.70	7.60	8.03	8.66	9.10	10.51
	8H	11.96	12.37	13.02	13.43	14.85	7.72	8.13	8.79	9.19	10.62
	12H	12.05	12.42	13.13	13.49	14.92	7.78	8.15	8.86	9.23	10.65
8H	4H	11.24	11.65	12.31	12.71	14.13	7.46	7.87	8.53	8.93	10.36
	6H	11.80	12.14	12.89	13.24	14.66	7.97	8.31	9.06	9.41	10.83
	8H	12.01	12.31	13.11	13.40	14.84	8.16	8.45	9.25	9.54	10.98
	12H	12.15	12.41	13.24	13.49	14.97	8.27	8.53	9.37	9.61	11.09
12H	4H	11.19	11.56	12.27	12.64	14.06	7.47	7.83	8.55	8.91	10.34
	6H	11.78	12.07	12.87	13.16	14.60	8.02	8.31	9.11	9.40	10.84
	8H	11.99	12.25	13.09	13.33	14.81	8.22	8.48	9.32	9.56	11.05