

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: P906386

Luminaire Tested: DFN2DIP-SQ3F0-050D060US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P906386
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-SQ3F0-050D060US835-RLLFLL
Description: 3 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

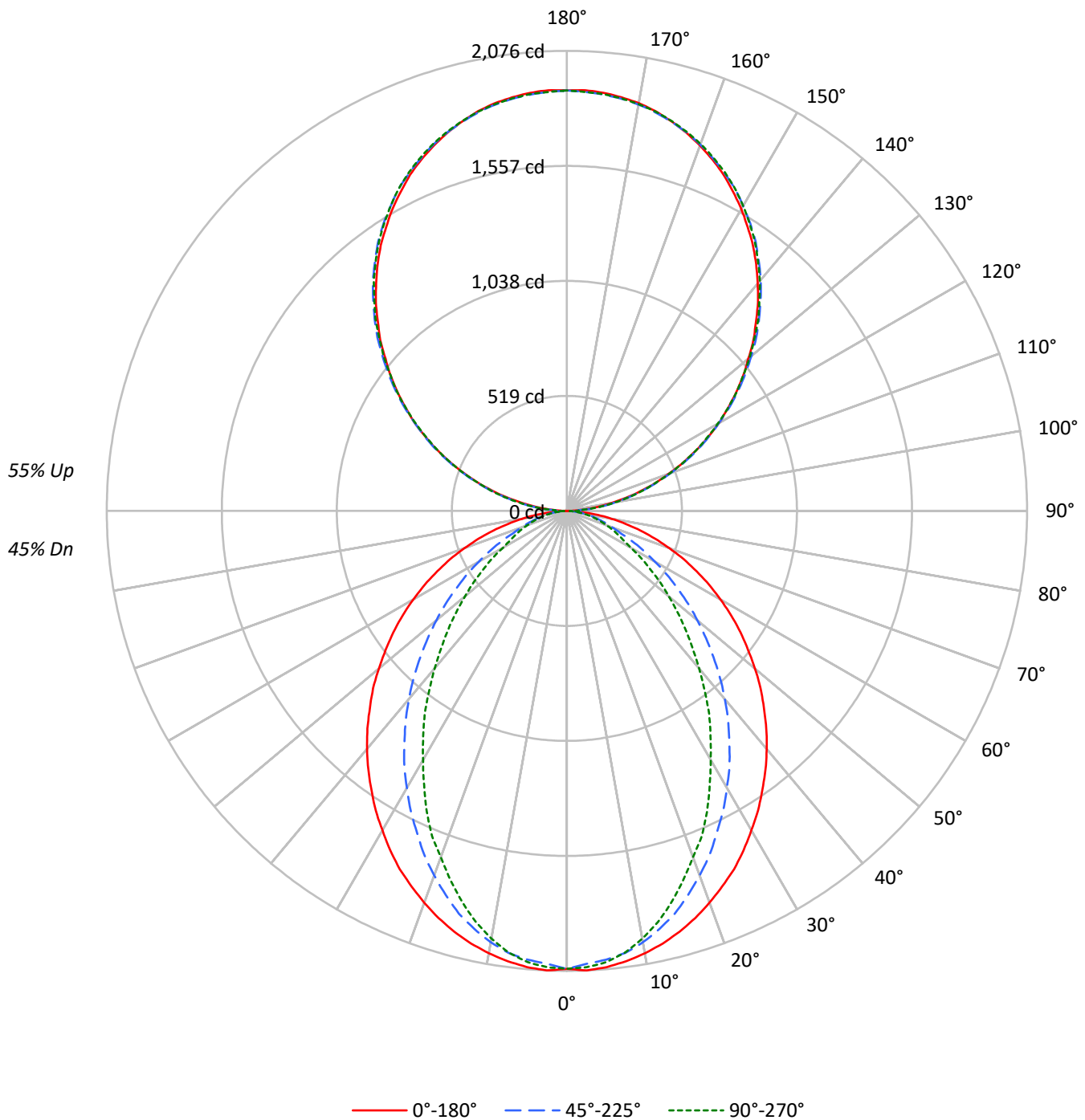
Lumens per Lamp: N/A
Luminaire Lumens: 9560.0 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

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

TEST NUMBER: P906386

CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US835-RLLFLL

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2368	2368	2368
5°	2370	2329	2344
10°	2345	2281	2267
15°	2311	2205	2149
20°	2267	2099	2003
25°	2222	1981	1863
30°	2162	1861	1685
35°	2102	1731	1529
40°	2042	1597	1350
45°	1972	1448	1188
50°	1900	1299	1030
55°	1824	1139	878
60°	1736	972	722
65°	1635	803	649
70°	1512	645	586
75°	1358	565	532
80°	1135	469	458
85°	770	306	340

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1972 cd/sqm

TEST NUMBER: P906386

CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US835-RLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	2.0
10°-20°	531.7	5.6
20°-30°	746.5	7.8
30°-40°	813.7	8.5
40°-50°	747.9	7.8
50°-60°	587.3	6.1
60°-70°	382.3	4.0
70°-80°	196.8	2.1
80°-90°	55.6	0.6
90°-100°	117.4	1.2
100°-110°	373.1	3.9
110°-120°	638.5	6.7
120°-130°	839.7	8.8
130°-140°	942.5	9.9
140°-150°	924.2	9.7
150°-160°	775.3	8.1
160°-170°	514.2	5.4
170°-180°	179.7	1.9
0°-30°	1471.8	15.4
0°-40°	2285.5	23.9
0°-60°	3620.7	37.9
0°-90°	4255.4	44.5
90°-120°	1129.0	11.8
90°-150°	3835.4	40.1
90°-180°	5305.0	55.5
0°-180°	9560.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2066	2066	2066	2066	2066	
5°	2066	2057	2033	2050	2044	196
15°	1966	1945	1881	1846	1827	554
25°	1784	1724	1601	1524	1496	821
35°	1537	1442	1277	1160	1118	962
45°	1257	1131	935	802	757	971
55°	956	810	608	496	460	854
65°	645	494	325	262	256	640
75°	344	213	150	136	135	364
85°	80	41	36	36	36	92
90°	2	21	56	53	54	9
95°	84	100	102	102	100	93
105°	344	349	352	355	355	363
115°	641	650	647	645	641	634
125°	932	946	942	936	935	833
135°	1205	1223	1226	1225	1220	932
145°	1463	1475	1484	1486	1479	914
155°	1673	1678	1683	1691	1686	770
165°	1820	1819	1819	1830	1822	514
175°	1894	1890	1886	1898	1888	180
180°	1898	1898	1898	1898	1898	



TEST NUMBER: P906386

CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US835-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2066.5	2066.5	2066.5	2066.5	2066.5
2.5°	2075.8	2066.5	2045.9	2064.7	2060.9
5°	2066.5	2057.2	2032.8	2049.6	2044.1
7.5°	2049.6	2038.5	2012.3	2019.7	2010.3
10°	2027.2	2014.1	1976.8	1971.1	1959.9
12.5°	1999.2	1982.4	1931.8	1920.7	1900.0
15°	1965.5	1944.9	1881.4	1845.9	1827.2
17.5°	1926.2	1896.3	1817.7	1776.6	1746.6
20°	1881.4	1843.9	1750.4	1703.8	1662.5
22.5°	1832.8	1789.7	1681.2	1617.7	1589.7
25°	1784.1	1724.2	1600.8	1524.2	1496.0
27.5°	1726.2	1662.5	1526.0	1438.1	1395.1
30°	1664.5	1593.3	1443.7	1348.4	1297.8
32.5°	1604.6	1518.5	1365.3	1253.0	1206.2
35°	1537.3	1441.9	1277.4	1159.5	1118.3
37.5°	1471.8	1368.9	1195.1	1065.9	1019.3
40°	1402.6	1290.5	1108.9	976.2	927.6
42.5°	1331.6	1211.9	1023.0	884.5	837.9
45°	1256.8	1131.4	935.1	802.2	757.3
47.5°	1185.7	1053.0	851.0	718.1	677.0
50°	1107.2	974.4	768.7	639.5	600.4
52.5°	1030.4	890.1	690.1	566.7	531.2
55°	955.6	809.7	607.7	495.6	460.1
57.5°	879.0	729.4	534.9	430.2	400.2
60°	800.4	650.8	458.1	362.9	332.9
62.5°	723.8	574.2	392.7	303.0	288.1
65°	645.2	493.7	325.4	261.9	256.2
67.5°	570.4	418.9	261.9	230.0	224.4
70°	491.9	346.0	216.9	198.2	190.7
72.5°	417.1	278.6	181.4	166.5	162.7
75°	344.1	213.1	149.6	136.5	134.7
77.5°	271.2	151.4	117.9	110.3	106.5
80°	203.8	108.5	89.7	82.3	82.3
82.5°	142.1	73.0	61.7	57.9	57.9
85°	80.4	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
90°	1.7	20.6	56.1	52.6	54.3
92.5°	35.5	48.1	49.8	51.5	51.5
95°	83.5	99.5	102.4	102.4	99.5
97.5°	139.0	153.9	160.2	160.2	160.2
100°	203.1	216.2	220.8	220.8	219.1
102.5°	270.6	280.3	286.6	288.3	286.6
105°	344.4	349.0	352.4	355.3	355.3
107.5°	417.6	424.5	424.5	425.6	417.6
110°	488.6	497.7	497.7	497.7	493.1



TEST NUMBER: P906386

CATALOG NUMBER: DFN2DIP-SQ3F0-050D060US835-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	565.2	574.9	573.2	568.6	565.2
115°	640.7	649.9	647.0	645.3	640.7
117.5°	715.7	728.3	720.2	715.7	711.1
120°	791.2	803.8	791.2	791.2	786.0
122.5°	859.8	875.8	867.8	863.3	859.8
125°	931.9	946.2	941.6	936.5	934.8
127.5°	1002.3	1020.0	1013.7	1006.9	1002.3
130°	1068.1	1088.7	1085.8	1082.4	1076.1
132.5°	1141.9	1157.9	1159.0	1151.0	1146.4
135°	1205.4	1223.1	1226.5	1224.8	1220.2
137.5°	1276.3	1290.6	1293.5	1292.3	1285.5
140°	1338.7	1353.0	1361.0	1361.0	1354.7
142.5°	1402.7	1417.0	1421.6	1423.3	1417.0
145°	1463.4	1474.8	1484.0	1485.7	1479.4
147.5°	1517.7	1532.0	1538.9	1541.7	1535.4
150°	1573.8	1583.5	1589.8	1594.9	1589.8
152.5°	1623.5	1633.3	1641.3	1647.6	1641.3
155°	1673.3	1677.9	1683.0	1691.1	1685.9
157.5°	1716.2	1719.7	1722.5	1734.0	1726.0
160°	1754.6	1758.0	1759.7	1769.4	1762.6
162.5°	1790.0	1790.0	1791.7	1802.6	1794.6
165°	1820.3	1818.6	1818.6	1830.1	1822.1
167.5°	1847.8	1842.7	1842.7	1854.1	1846.1
170°	1868.4	1863.8	1862.1	1873.5	1863.8
172.5°	1882.7	1878.1	1876.4	1887.8	1878.1
175°	1894.1	1889.6	1886.1	1897.6	1887.8
177.5°	1900.4	1895.9	1892.4	1902.1	1892.4
180°	1897.6	1897.6	1897.6	1897.6	1897.6

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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	9.57	10.36	10.58	11.37	12.72	5.53	6.32	6.54	7.33	8.68
	3H	11.24	11.94	12.26	12.97	14.34	6.71	7.41	7.73	8.44	9.81
	4H	11.84	12.51	12.88	13.54	14.92	7.15	7.82	8.19	8.85	10.23
	6H	12.26	12.87	13.30	13.90	15.29	7.47	8.08	8.51	9.11	10.50
	8H	12.38	12.97	13.43	14.01	15.40	7.55	8.14	8.60	9.18	10.57
	12H	12.44	13.00	13.49	14.04	15.45	7.59	8.15	8.64	9.19	10.60
4H	2H	9.58	10.25	10.62	11.27	12.65	6.12	6.79	7.16	7.81	9.19
	3H	11.40	11.96	12.45	13.01	14.40	7.46	8.01	8.50	9.07	10.46
	4H	12.09	12.60	13.14	13.64	15.06	8.00	8.51	9.05	9.55	10.97
	6H	12.60	13.03	13.66	14.10	15.51	8.41	8.84	9.47	9.91	11.32
	8H	12.77	13.17	13.83	14.24	15.66	8.53	8.94	9.60	10.00	11.42
	12H	12.86	13.23	13.94	14.30	15.73	8.59	8.96	9.67	10.04	11.46
8H	4H	12.05	12.46	13.11	13.52	14.94	8.27	8.68	9.34	9.74	11.17
	6H	12.61	12.95	13.70	14.05	15.47	8.78	9.12	9.87	10.22	11.64
	8H	12.82	13.12	13.92	14.21	15.65	8.97	9.26	10.06	10.35	11.79
	12H	12.96	13.22	14.05	14.30	15.78	9.08	9.34	10.17	10.42	11.90
12H	4H	12.00	12.37	13.08	13.44	14.87	8.28	8.64	9.36	9.72	11.15
	6H	12.59	12.88	13.68	13.97	15.41	8.83	9.12	9.92	10.21	11.65
	8H	12.80	13.06	13.90	14.14	15.62	9.03	9.29	10.13	10.37	11.85

END OF REPORT