

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: P906380

Luminaire Tested: DFN2DIP-SQ3F0-050D050US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P906380
REPORT IS A COMBINATION OF REPORTS P899881 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-050D050US835-FLLFLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

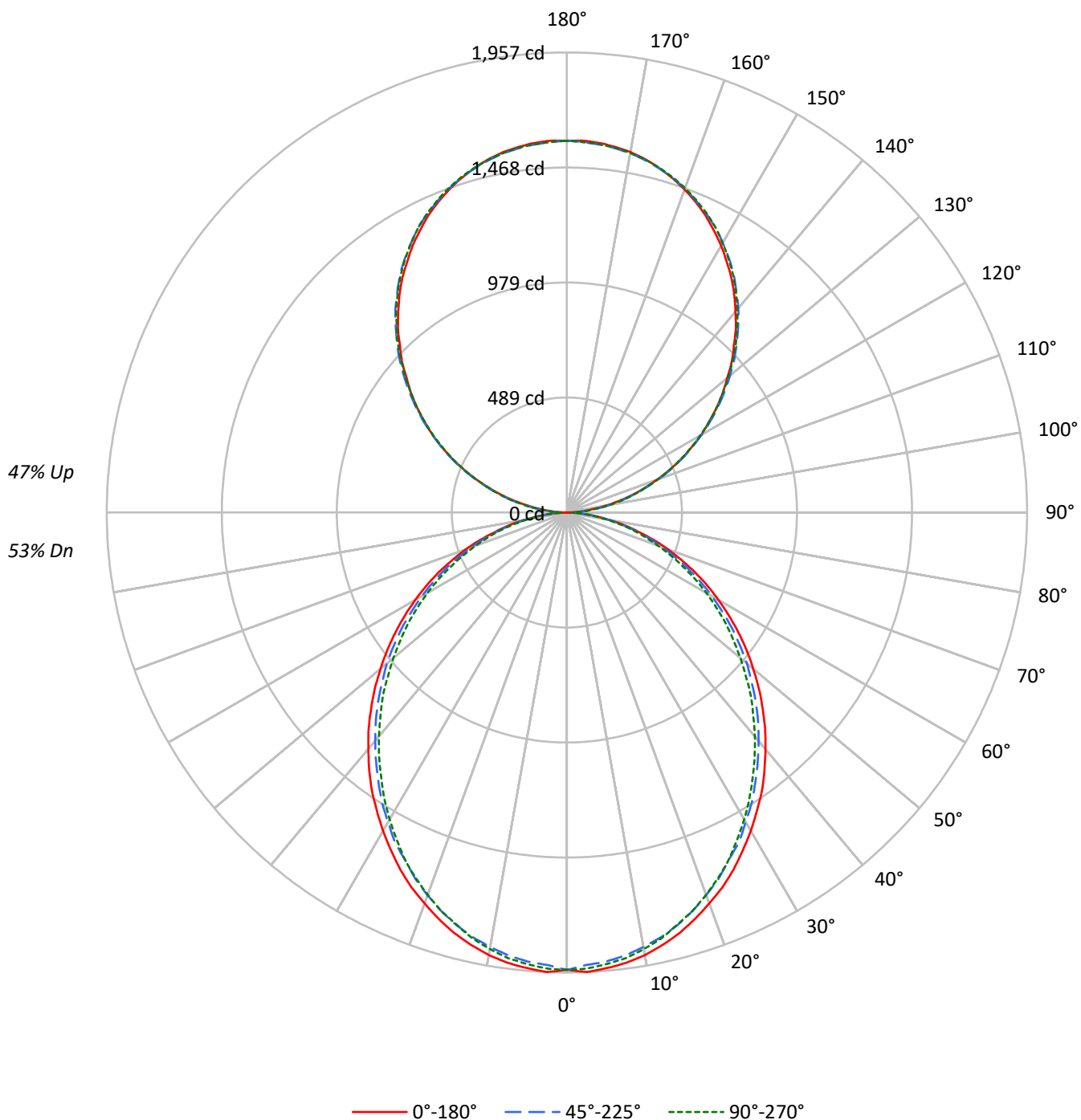
Lumens per Lamp: N/A
Luminaire Lumens: 9375.0 lumens
Efficiency: N/A
Efficacy: 118.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 79.1
Input Voltage (V): 120
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: P906380

CATALOG NUMBER: DFN2DIP-SQ3F0-050D050US835-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P906380

CATALOG NUMBER: DFN2DIP-SQ3F0-050D050US835-FLLFL

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	100	100	100	100	85	85	85	71	71	71	59	59	59
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42
3	82	72	65	59	75	67	61	55	58	53	49	49	45	42	41	38	36
4	75	64	56	50	69	60	52	47	51	46	41	43	39	36	36	33	31
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27
6	63	51	43	37	58	48	40	35	41	36	31	35	31	27	30	26	24
7	59	46	38	33	54	43	36	31	37	32	28	32	28	24	27	24	21
8	54	42	34	29	50	39	32	27	34	29	24	29	25	22	25	21	19
9	51	38	31	26	47	36	29	24	31	26	22	27	23	19	23	20	17
10	47	35	28	23	44	33	26	22	29	23	20	25	21	18	21	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2229	2229	2229
5°	2231	2197	2212
10°	2212	2166	2182
15°	2178	2128	2134
20°	2133	2077	2085
25°	2087	2017	2029
30°	2031	1960	1958
35°	1978	1894	1883
40°	1912	1826	1811
45°	1847	1759	1738
50°	1775	1688	1653
55°	1700	1606	1575
60°	1615	1509	1485
65°	1522	1408	1379
70°	1404	1285	1266
75°	1240	1137	1159
80°	1042	949	958
85°	733	628	627

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1847 cd/sqm

TEST NUMBER: P906380

CATALOG NUMBER: DFN2DIP-SQ3F0-050D050US835-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.1	2.0
10°-20°	515.2	5.5
20°-30°	757.2	8.1
30°-40°	879.4	9.4
40°-50°	878.3	9.4
50°-60°	765.8	8.2
60°-70°	566.1	6.0
70°-80°	320.3	3.4
80°-90°	89.0	0.9
90°-100°	97.8	1.0
100°-110°	310.9	3.3
110°-120°	532.1	5.7
120°-130°	699.7	7.5
130°-140°	785.4	8.4
140°-150°	770.2	8.2
150°-160°	646.1	6.9
160°-170°	428.5	4.6
170°-180°	149.8	1.6
0°-30°	1455.5	15.5
0°-40°	2334.9	24.9
0°-60°	3979.0	42.4
0°-90°	4954.5	52.8
90°-120°	940.8	10.0
90°-150°	3196.2	34.1
90°-180°	4421.0	47.2
0°-180°	9375.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1946	1946	1946	1946	1946	
5°	1946	1938	1918	1932	1929	185
15°	1852	1841	1816	1824	1815	522
25°	1676	1661	1630	1633	1630	771
35°	1446	1428	1398	1386	1377	903
45°	1177	1164	1136	1115	1108	908
55°	891	879	857	834	825	796
65°	601	589	571	554	544	594
75°	314	311	301	290	294	335
85°	77	75	73	67	66	85
90°	1	17	47	44	45	9
95°	70	83	85	85	83	77
105°	287	291	294	296	296	303
115°	534	542	539	538	534	528
125°	777	788	785	780	779	694
135°	1004	1019	1022	1021	1017	776
145°	1220	1229	1237	1238	1233	762
155°	1394	1398	1402	1409	1405	642
165°	1517	1516	1516	1525	1518	428
175°	1578	1575	1572	1581	1573	150
180°	1581	1581	1581	1581	1581	

TEST NUMBER: P906380

CATALOG NUMBER: DFN2DIP-SQ3F0-050D050US835-FLLFLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1945.5	1945.5	1945.5	1945.5	1945.5
2.5°	1956.8	1947.5	1926.9	1945.5	1942.0
5°	1945.5	1938.2	1917.5	1932.4	1928.9
7.5°	1932.4	1921.3	1900.7	1915.8	1912.0
10°	1912.0	1898.9	1876.5	1891.3	1885.8
12.5°	1883.8	1872.7	1850.3	1859.6	1855.8
15°	1852.0	1840.9	1816.5	1824.1	1814.7
17.5°	1812.7	1801.6	1777.2	1786.5	1777.2
20°	1769.7	1758.6	1732.4	1737.9	1730.6
22.5°	1726.8	1709.9	1685.5	1685.5	1681.7
25°	1676.2	1661.3	1629.5	1633.1	1629.5
27.5°	1620.0	1606.9	1582.7	1577.1	1567.8
30°	1564.0	1549.0	1521.0	1515.4	1507.9
32.5°	1504.1	1493.0	1463.0	1451.7	1444.2
35°	1446.1	1427.5	1397.5	1386.2	1376.9
37.5°	1380.6	1363.8	1333.8	1320.7	1311.4
40°	1313.4	1298.3	1268.3	1251.6	1244.1
42.5°	1247.9	1232.8	1203.0	1184.1	1173.0
45°	1176.8	1163.7	1135.5	1115.1	1107.5
47.5°	1107.5	1094.4	1064.5	1043.8	1032.7
50°	1034.5	1025.2	999.0	972.8	963.4
52.5°	963.4	950.3	926.1	905.5	892.4
55°	890.6	879.3	856.8	834.4	825.1
57.5°	817.5	808.2	783.8	761.4	753.8
60°	744.5	737.2	711.0	690.3	684.8
62.5°	673.5	660.4	641.7	623.0	615.5
65°	600.6	589.3	570.6	553.8	544.4
67.5°	525.8	516.3	499.6	486.5	478.9
70°	456.5	449.0	432.1	419.0	411.7
72.5°	385.5	377.9	368.6	355.5	349.9
75°	314.2	310.6	301.1	290.0	293.8
77.5°	250.7	243.1	239.4	233.8	228.3
80°	187.2	185.2	181.4	175.9	172.1
82.5°	127.2	127.2	125.4	117.9	117.9
85°	76.6	74.8	73.0	67.3	65.5
87.5°	33.7	30.0	26.2	20.6	18.7
90°	1.4	17.2	46.7	43.9	45.3
92.5°	29.6	40.0	41.5	42.9	42.9
95°	69.6	83.0	85.3	85.3	83.0
97.5°	115.8	128.2	133.5	133.5	133.5
100°	169.2	180.2	184.0	184.0	182.6
102.5°	225.5	233.6	238.8	240.3	238.8
105°	287.0	290.8	293.7	296.0	296.0
107.5°	348.0	353.7	353.7	354.7	348.0
110°	407.1	414.8	414.8	414.8	410.9

TEST NUMBER: P906380

CATALOG NUMBER: DFN2DIP-SQ3F0-050D050US835-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	471.0	479.1	477.7	473.9	471.0
115°	533.9	541.6	539.2	537.8	533.9
117.5°	596.4	606.9	600.2	596.4	592.6
120°	659.3	669.8	659.3	659.3	655.0
122.5°	716.5	729.9	723.2	719.4	716.5
125°	776.6	788.5	784.7	780.4	779.0
127.5°	835.2	850.0	844.8	839.0	835.2
130°	890.1	907.2	904.8	902.0	896.7
132.5°	951.6	964.9	965.9	959.2	955.4
135°	1004.5	1019.2	1022.1	1020.7	1016.9
137.5°	1063.6	1075.5	1077.9	1076.9	1071.2
140°	1115.5	1127.5	1134.1	1134.1	1128.9
142.5°	1168.9	1180.9	1184.7	1186.1	1180.9
145°	1219.5	1229.0	1236.6	1238.1	1232.8
147.5°	1264.8	1276.7	1282.4	1284.8	1279.5
150°	1311.5	1319.6	1324.8	1329.1	1324.8
152.5°	1353.0	1361.1	1367.7	1373.0	1367.7
155°	1394.4	1398.2	1402.5	1409.2	1404.9
157.5°	1430.2	1433.0	1435.4	1445.0	1438.3
160°	1462.1	1465.0	1466.4	1474.5	1468.8
162.5°	1491.7	1491.7	1493.1	1502.2	1495.5
165°	1517.0	1515.5	1515.5	1525.1	1518.4
167.5°	1539.8	1535.5	1535.5	1545.1	1538.4
170°	1557.0	1553.2	1551.8	1561.3	1553.2
172.5°	1568.9	1565.1	1563.7	1573.2	1565.1
175°	1578.5	1574.6	1571.8	1581.3	1573.2
177.5°	1583.7	1579.9	1577.0	1585.1	1577.0
180°	1581.3	1581.3	1581.3	1581.3	1581.3

TEST NUMBER: P906380

CATALOG NUMBER: DFN2DIP-SQ3F0-050D050US835-FLLFLL

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	10.28	11.17	11.21	12.12	13.35	9.84	10.72	10.77	11.67	12.90
	3H	11.94	12.74	12.88	13.69	14.95	11.45	12.25	12.39	13.20	14.46
	4H	12.52	13.28	13.48	14.24	15.50	12.03	12.78	12.99	13.75	15.01
	6H	12.92	13.62	13.89	14.59	15.86	12.42	13.12	13.39	14.09	15.36
	8H	13.03	13.69	14.00	14.67	15.95	12.52	13.19	13.50	14.17	15.44
	12H	13.07	13.70	14.06	14.68	15.98	12.56	13.19	13.55	14.17	15.47
4H	2H	10.74	11.50	11.71	12.46	13.72	10.39	11.14	11.35	12.10	13.37
	3H	12.60	13.23	13.58	14.23	15.50	12.20	12.83	13.17	13.82	15.10
	4H	13.32	13.89	14.30	14.88	16.18	12.89	13.47	13.87	14.45	15.75
	6H	13.83	14.32	14.82	15.33	16.63	13.40	13.89	14.39	14.90	16.20
	8H	13.98	14.44	14.97	15.44	16.76	13.54	14.00	14.54	15.01	16.32
	12H	14.05	14.47	15.06	15.49	16.80	13.60	14.02	14.61	15.04	16.36
8H	4H	13.51	13.97	14.51	14.98	16.29	13.13	13.60	14.13	14.60	15.91
	6H	14.14	14.52	15.16	15.57	16.88	13.75	14.14	14.77	15.18	16.49
	8H	14.35	14.69	15.38	15.72	17.05	13.96	14.30	14.99	15.33	16.66
	12H	14.48	14.78	15.52	15.81	17.18	14.07	14.37	15.11	15.40	16.77
12H	4H	13.50	13.91	14.51	14.93	16.25	13.13	13.55	14.14	14.57	15.88
	6H	14.17	14.50	15.19	15.54	16.86	13.79	14.13	14.82	15.16	16.49
	8H	14.40	14.70	15.44	15.73	17.10	14.02	14.32	15.06	15.35	16.72

END OF REPORT