

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: P906424

Luminaire Tested: DFN2DIP-SQ3F0-060D070US835-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P906424
REPORT IS A COMBINATION OF REPORTS P899919 AND P896733
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-SQ3F0-060D070US835-FLLFLL
Description: 3 foot, Square Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

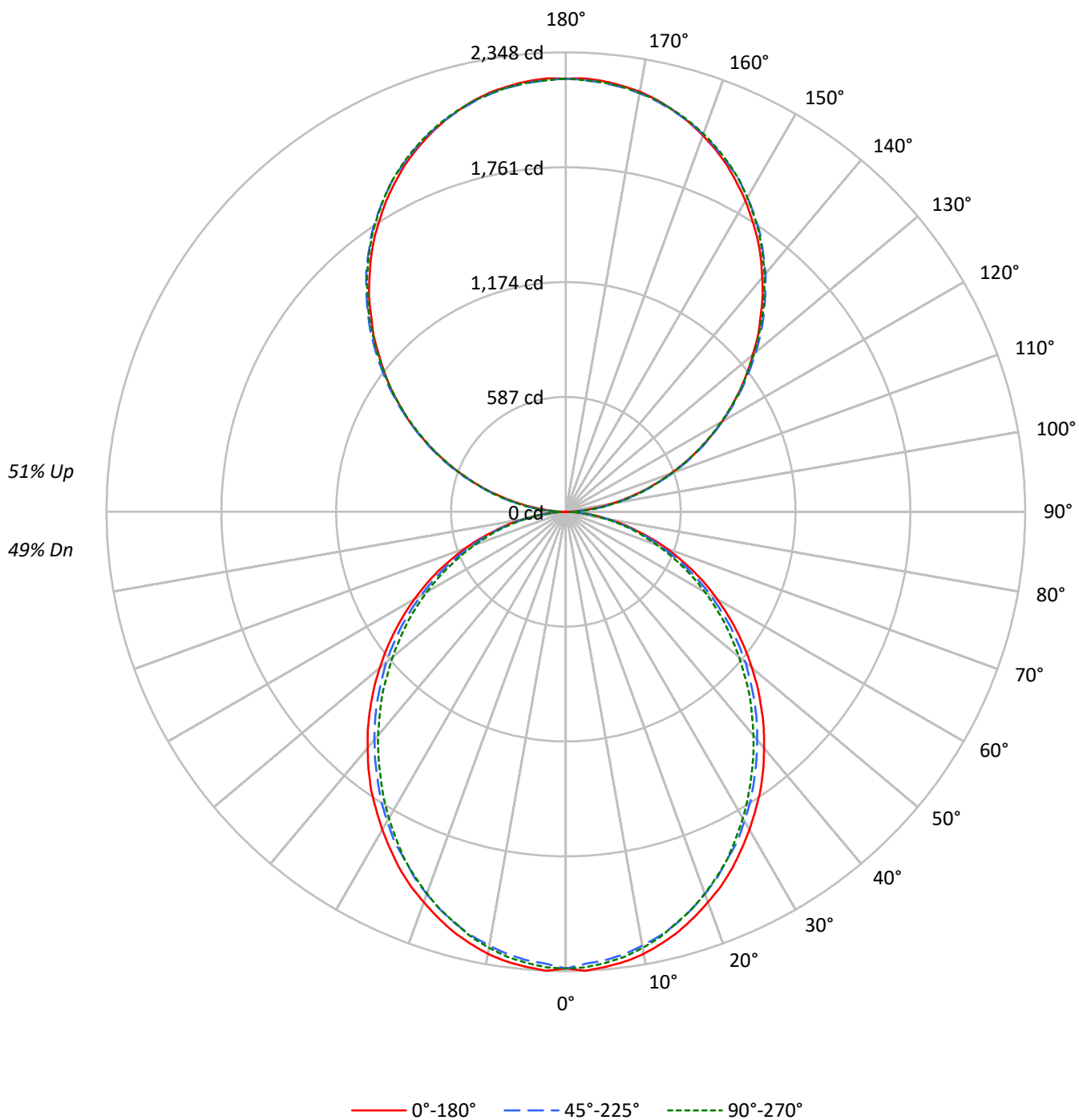
Lumens per Lamp: N/A
Luminaire Lumens: 12135.0 lumens
Efficiency: N/A
Efficacy: 114.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.06' x L: 3.06' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 105.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P906424

CATALOG NUMBER: DFN2DIP-SQ3F0-060D070US835-FLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P906424

CATALOG NUMBER: DFN2DIP-SQ3F0-060D070US835-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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55
1	98	93	89	86	90	86	83	80	73	70	68	60	59	57	49	48	47
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	36	33
4	74	63	55	49	68	59	52	46	50	45	40	42	38	34	34	31	29
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25
6	63	51	43	37	58	47	40	35	40	35	30	34	29	26	28	25	22
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18
9	50	38	30	25	46	35	29	24	30	25	21	26	22	19	22	18	16
10	47	35	28	23	43	32	26	22	28	23	19	24	20	17	20	17	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2675	2675	2675
5°	2678	2636	2655
10°	2654	2599	2618
15°	2613	2554	2561
20°	2559	2493	2502
25°	2505	2420	2435
30°	2437	2352	2350
35°	2373	2272	2259
40°	2294	2192	2173
45°	2216	2111	2085
50°	2130	2026	1984
55°	2040	1927	1890
60°	1938	1811	1782
65°	1826	1689	1655
70°	1684	1542	1519
75°	1488	1365	1391
80°	1251	1139	1150
85°	880	754	753

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2227 cd/sqm

TEST NUMBER: P906424

CATALOG NUMBER: DFN2DIP-SQ3F0-060D070US835-FLLFLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.7	1.8
10°-20°	618.3	5.1
20°-30°	908.6	7.5
30°-40°	1055.3	8.7
40°-50°	1054.0	8.7
50°-60°	919.0	7.6
60°-70°	679.4	5.6
70°-80°	384.4	3.2
80°-90°	107.7	0.9
90°-100°	137.0	1.1
100°-110°	435.3	3.6
110°-120°	744.9	6.1
120°-130°	979.6	8.1
130°-140°	1099.6	9.1
140°-150°	1078.3	8.9
150°-160°	904.5	7.5
160°-170°	599.9	4.9
170°-180°	209.7	1.7
0°-30°	1746.6	14.4
0°-40°	2801.8	23.1
0°-60°	4774.8	39.3
0°-90°	5946.3	49.0
90°-120°	1317.2	10.9
90°-150°	4474.7	36.9
90°-180°	6189.0	51.0
0°-180°	12135.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2335	2335	2335	2335	2335	
5°	2335	2326	2301	2319	2315	222
15°	2222	2209	2180	2189	2178	626
25°	2011	1994	1955	1960	1955	926
35°	1735	1713	1677	1663	1652	1084
45°	1412	1396	1363	1338	1329	1090
55°	1069	1055	1028	1001	990	955
65°	721	707	685	664	653	713
75°	377	373	361	348	352	402
85°	92	90	88	81	79	103
90°	2	24	65	61	63	12
95°	97	116	120	120	116	108
105°	402	407	411	414	414	424
115°	748	758	755	753	748	739
125°	1087	1104	1099	1093	1091	972
135°	1406	1427	1431	1429	1424	1087
145°	1707	1721	1731	1733	1726	1067
155°	1952	1958	1964	1973	1967	899
165°	2124	2122	2122	2135	2126	599
175°	2210	2204	2200	2214	2202	210
180°	2214	2214	2214	2214	2214	

TEST NUMBER: P906424

CATALOG NUMBER: DFN2DIP-SQ3F0-060D070US835-FLLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2334.6	2334.6	2334.6	2334.6	2334.6
2.5°	2348.2	2337.0	2312.2	2334.6	2330.3
5°	2334.6	2325.8	2301.0	2318.9	2314.6
7.5°	2318.9	2305.6	2280.8	2298.9	2294.4
10°	2294.4	2278.7	2251.7	2269.6	2262.9
12.5°	2260.6	2247.2	2220.3	2231.5	2227.0
15°	2222.4	2209.1	2179.8	2188.9	2177.7
17.5°	2175.3	2162.0	2132.7	2143.8	2132.7
20°	2123.6	2110.3	2078.8	2085.5	2076.7
22.5°	2072.2	2051.9	2022.6	2022.6	2018.1
25°	2011.4	1993.6	1955.4	1959.7	1955.4
27.5°	1944.0	1928.3	1899.2	1892.6	1881.4
30°	1876.9	1858.7	1825.2	1818.5	1809.4
32.5°	1804.9	1791.6	1755.6	1742.0	1733.0
35°	1735.4	1713.0	1677.0	1663.4	1652.2
37.5°	1656.8	1636.5	1600.6	1584.8	1573.6
40°	1576.0	1557.9	1522.0	1502.0	1492.9
42.5°	1497.4	1479.3	1443.6	1421.0	1407.6
45°	1412.2	1396.4	1362.6	1338.1	1329.0
47.5°	1329.0	1313.3	1277.4	1252.6	1239.2
50°	1241.4	1230.2	1198.8	1167.3	1156.1
52.5°	1156.1	1140.4	1111.3	1086.6	1070.9
55°	1068.7	1055.1	1028.2	1001.3	990.1
57.5°	981.1	969.9	940.6	913.7	904.6
60°	893.4	884.6	853.2	828.4	821.7
62.5°	808.1	792.4	770.0	747.6	738.6
65°	720.7	707.2	684.8	664.5	653.3
67.5°	630.9	619.5	599.5	583.8	574.7
70°	547.8	538.8	518.5	502.8	494.0
72.5°	462.5	453.5	442.3	426.6	419.9
75°	377.0	372.8	361.3	348.0	352.5
77.5°	300.8	291.8	287.2	280.6	273.9
80°	224.6	222.2	217.7	211.0	206.5
82.5°	152.7	152.7	150.5	141.5	141.5
85°	91.9	89.8	87.6	80.7	78.6
87.5°	40.5	36.0	31.4	24.8	22.4
90°	2.0	24.0	65.4	61.4	63.4
92.5°	41.4	56.1	58.1	60.1	60.1
95°	97.4	116.1	119.5	119.5	116.1
97.5°	162.2	179.5	186.9	186.9	186.9
100°	236.9	252.3	257.6	257.6	255.6
102.5°	315.7	327.0	334.4	336.4	334.4
105°	401.8	407.1	411.1	414.5	414.5
107.5°	487.2	495.2	495.2	496.6	487.2
110°	570.0	580.7	580.7	580.7	575.3

TEST NUMBER: P906424

CATALOG NUMBER: DFN2DIP-SQ3F0-060D070US835-FLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	659.4	670.8	668.8	663.4	659.4
115°	747.5	758.2	754.9	752.9	747.5
117.5°	834.9	849.6	840.3	834.9	829.6
120°	923.0	937.7	923.0	923.0	917.0
122.5°	1003.1	1021.8	1012.5	1007.1	1003.1
125°	1087.2	1103.9	1098.6	1092.6	1090.6
127.5°	1169.3	1190.0	1182.7	1174.7	1169.3
130°	1246.1	1270.1	1266.8	1262.8	1255.4
132.5°	1332.2	1350.9	1352.2	1342.9	1337.5
135°	1406.3	1426.9	1431.0	1428.9	1423.6
137.5°	1489.0	1505.7	1509.0	1507.7	1499.7
140°	1561.8	1578.5	1587.8	1587.8	1580.5
142.5°	1636.5	1653.2	1658.5	1660.5	1653.2
145°	1707.3	1720.6	1731.3	1733.3	1726.0
147.5°	1770.7	1787.4	1795.4	1798.7	1791.4
150°	1836.1	1847.4	1854.8	1860.8	1854.8
152.5°	1894.1	1905.5	1914.8	1922.2	1914.8
155°	1952.2	1957.5	1963.6	1972.9	1966.9
157.5°	2002.3	2006.3	2009.6	2023.0	2013.6
160°	2047.0	2051.0	2053.0	2064.3	2056.3
162.5°	2088.4	2088.4	2090.4	2103.0	2093.7
165°	2123.7	2121.7	2121.7	2135.1	2125.7
167.5°	2155.8	2149.8	2149.8	2163.1	2153.8
170°	2179.8	2174.5	2172.5	2185.8	2174.5
172.5°	2196.5	2191.1	2189.1	2202.5	2191.1
175°	2209.8	2204.5	2200.5	2213.8	2202.5
177.5°	2217.2	2211.8	2207.8	2219.2	2207.8
180°	2213.8	2213.8	2213.8	2213.8	2213.8

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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	10.56	11.41	11.53	12.39	13.68	10.12	10.97	11.08	11.95	13.24
	3H	12.22	12.98	13.19	13.97	15.28	11.73	12.49	12.70	13.48	14.79
	4H	12.80	13.52	13.79	14.52	15.83	12.31	13.03	13.30	14.02	15.34
	6H	13.20	13.86	14.20	14.86	16.19	12.70	13.36	13.70	14.36	15.69
	8H	13.30	13.93	14.31	14.95	16.27	12.80	13.43	13.81	14.45	15.77
	12H	13.35	13.95	14.36	14.96	16.31	12.84	13.44	13.85	14.45	15.80
4H	2H	11.02	11.74	12.01	12.74	14.05	10.66	11.39	11.66	12.38	13.70
	3H	12.88	13.48	13.88	14.50	15.83	12.47	13.07	13.48	14.10	15.43
	4H	13.59	14.14	14.60	15.16	16.51	13.16	13.72	14.18	14.73	16.08
	6H	14.10	14.57	15.12	15.61	16.96	13.67	14.14	14.69	15.18	16.53
	8H	14.25	14.69	15.27	15.72	17.09	13.81	14.25	14.83	15.28	16.65
	12H	14.32	14.72	15.36	15.76	17.13	13.87	14.27	14.91	15.31	16.68
8H	4H	13.78	14.22	14.80	15.25	16.62	13.40	13.85	14.43	14.88	16.24
	6H	14.40	14.77	15.45	15.84	17.21	14.02	14.39	15.07	15.46	16.82
	8H	14.62	14.95	15.68	16.00	17.38	14.23	14.55	15.29	15.61	16.99
	12H	14.75	15.03	15.81	16.09	17.51	14.34	14.62	15.40	15.68	17.10
12H	4H	13.76	14.17	14.81	15.21	16.58	13.40	13.80	14.44	14.84	16.21
	6H	14.43	14.76	15.49	15.81	17.19	14.06	14.38	15.12	15.44	16.82
	8H	14.67	14.95	15.73	16.01	17.43	14.29	14.57	15.35	15.63	17.05

END OF REPORT