

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: P924710

Luminaire Tested: DFN2DIP-PN2F0-030D060US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924710
REPORT IS A COMBINATION OF REPORTS P899504 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D060US950-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

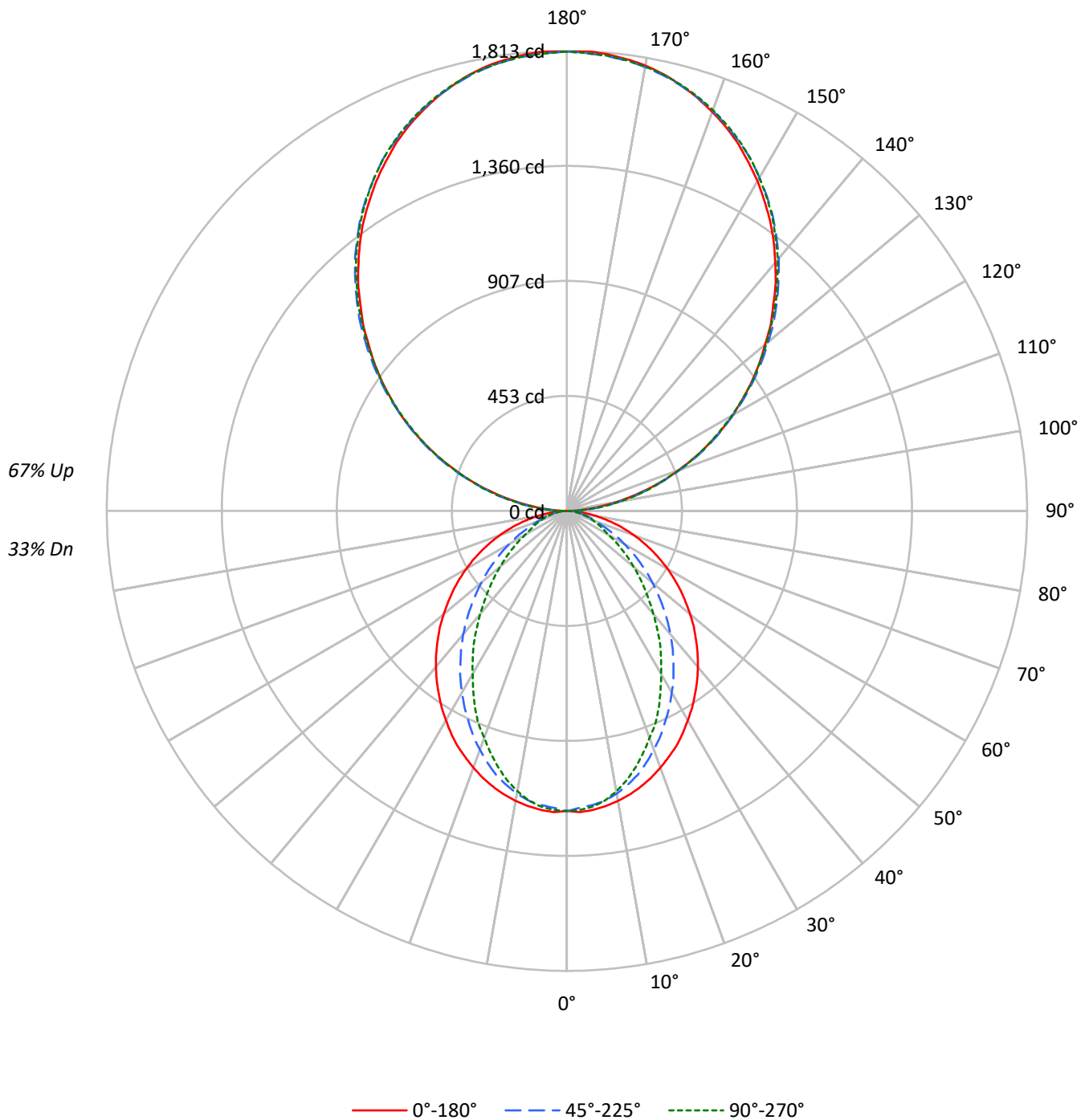
Lumens per Lamp: N/A
Luminaire Lumens: 7498.4 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 80.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																					
0	103	103	103	103		93	93	93	93		74	74	74		56	56	56		40	40	40
1	94	90	86	83		85	81	78	75		65	63	61		50	48	47		36	35	34
2	86	79	73	68		77	71	67	62		57	54	51		44	42	40		32	31	29
3	79	70	63	57		71	63	57	52		51	46	43		39	36	34		29	27	25
4	72	62	54	49		65	56	50	45		45	41	37		35	32	29		26	24	22
5	66	55	47	42		59	50	43	38		40	36	32		32	28	26		23	21	19
6	61	49	42	36		55	45	38	33		36	32	28		29	25	23		21	19	17
7	56	45	37	32		51	41	34	29		33	28	25		26	23	20		19	17	15
8	52	40	33	28		47	37	30	26		30	25	22		24	20	18		18	16	14
9	49	37	30	25		44	34	27	23		28	23	20		22	19	16		17	14	13
10	45	34	27	22		41	31	25	21		25	21	18		20	17	15		15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2562	2562	2562
5°	2562	2516	2534
10°	2533	2461	2448
15°	2494	2374	2317
20°	2443	2257	2157
25°	2392	2127	2003
30°	2324	1994	1810
35°	2258	1851	1640
40°	2190	1704	1446
45°	2111	1542	1269
50°	2029	1378	1098
55°	1944	1204	933
60°	1845	1024	765
65°	1730	840	684
70°	1591	669	613
75°	1416	580	551
80°	1166	471	466
85°	762	292	331

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2439 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.9	1.5
10°-20°	304.3	4.1
20°-30°	427.3	5.7
30°-40°	465.7	6.2
40°-50°	428.1	5.7
50°-60°	336.2	4.5
60°-70°	218.8	2.9
70°-80°	112.6	1.5
80°-90°	33.9	0.5
90°-100°	112.0	1.5
100°-110°	355.9	4.7
110°-120°	609.1	8.1
120°-130°	801.1	10.7
130°-140°	899.2	12.0
140°-150°	881.7	11.8
150°-160°	739.6	9.9
160°-170°	490.5	6.5
170°-180°	171.4	2.3
0°-30°	842.5	11.2
0°-40°	1308.2	17.4
0°-60°	2072.5	27.6
0°-90°	2437.8	32.5
90°-120°	1077.0	14.4
90°-150°	3659.0	48.8
90°-180°	5061.0	67.5
0°-180°	7498.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1183	1183	1183	1183	1183	
5°	1183	1178	1164	1173	1170	112
15°	1125	1113	1077	1057	1046	317
25°	1021	987	916	872	856	470
35°	880	825	731	664	640	551
45°	719	648	535	459	434	556
55°	547	464	348	284	263	489
65°	369	283	186	150	147	366
75°	197	122	86	78	77	208
85°	46	24	20	20	20	53
90°	2	20	54	50	52	7
95°	80	95	98	98	95	89
105°	329	333	336	339	339	347
115°	611	620	617	616	611	605
125°	889	903	898	893	892	794
135°	1150	1167	1170	1168	1164	889
145°	1396	1407	1416	1417	1411	872
155°	1596	1601	1606	1613	1608	735
165°	1737	1735	1735	1746	1738	490
175°	1807	1803	1799	1810	1801	172
180°	1810	1810	1810	1810	1810	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1182.9	1182.9	1182.9	1182.9	1182.9
2.5°	1188.2	1182.9	1171.0	1181.8	1179.7
5°	1182.9	1177.5	1163.6	1173.2	1170.0
7.5°	1173.2	1166.8	1151.9	1156.1	1150.7
10°	1160.4	1152.9	1131.5	1128.2	1121.9
12.5°	1144.3	1134.7	1105.8	1099.4	1087.6
15°	1125.1	1113.2	1076.9	1056.6	1045.9
17.5°	1102.5	1085.5	1040.4	1017.0	999.8
20°	1076.9	1055.4	1001.9	975.3	951.6
22.5°	1049.1	1024.4	962.3	926.0	909.9
25°	1021.3	986.9	916.3	872.4	856.3
27.5°	988.1	951.6	873.5	823.2	798.5
30°	952.8	912.0	826.4	771.9	742.9
32.5°	918.4	869.2	781.5	717.2	690.4
35°	880.0	825.3	731.1	663.7	640.1
37.5°	842.5	783.5	684.0	610.1	583.5
40°	802.9	738.7	634.8	558.8	531.0
42.5°	762.2	693.7	585.6	506.3	479.6
45°	719.4	647.6	535.3	459.2	433.5
47.5°	678.7	602.7	487.1	411.0	387.5
50°	633.7	557.7	440.0	366.0	343.6
52.5°	589.8	509.5	395.1	324.4	304.0
55°	546.9	463.5	347.8	283.7	263.4
57.5°	503.1	417.5	306.2	246.2	229.1
60°	458.1	372.5	262.3	207.7	190.6
62.5°	414.3	328.7	224.8	173.4	164.9
65°	369.3	282.6	186.2	149.9	146.6
67.5°	326.6	239.7	149.9	131.7	128.4
70°	281.5	198.1	124.1	113.4	109.1
72.5°	238.7	159.4	103.8	95.3	93.1
75°	196.9	122.0	85.7	78.1	77.1
77.5°	155.2	86.6	67.4	63.2	61.0
80°	116.7	62.1	51.3	47.1	47.1
82.5°	81.3	41.8	35.3	33.2	33.2
85°	46.0	23.5	20.3	20.3	20.3
87.5°	17.2	8.5	8.5	7.5	7.5
90°	1.6	19.7	53.5	50.2	51.8
92.5°	33.9	45.9	47.5	49.1	49.1
95°	79.7	94.9	97.7	97.7	94.9
97.5°	132.6	146.8	152.8	152.8	152.8
100°	193.8	206.3	210.6	210.6	209.0
102.5°	258.2	267.4	273.4	275.0	273.4
105°	328.6	332.9	336.2	339.0	339.0
107.5°	398.4	405.0	405.0	406.0	398.4
110°	466.1	474.8	474.8	474.8	470.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	539.2	548.5	546.8	542.4	539.2
115°	611.2	620.0	617.2	615.6	611.2
117.5°	682.8	694.8	687.1	682.8	678.4
120°	754.8	766.8	754.8	754.8	749.8
122.5°	820.2	835.5	827.9	823.6	820.2
125°	889.0	902.7	898.3	893.4	891.8
127.5°	956.2	973.1	967.1	960.6	956.2
130°	1019.0	1038.6	1035.9	1032.6	1026.6
132.5°	1089.4	1104.6	1105.7	1098.1	1093.7
135°	1150.0	1166.8	1170.1	1168.5	1164.1
137.5°	1217.6	1231.2	1234.0	1232.9	1226.4
140°	1277.1	1290.8	1298.4	1298.4	1292.4
142.5°	1338.2	1351.8	1356.2	1357.8	1351.8
145°	1396.1	1407.0	1415.7	1417.4	1411.3
147.5°	1447.9	1461.5	1468.1	1470.8	1464.8
150°	1501.4	1510.7	1516.7	1521.5	1516.7
152.5°	1548.8	1558.2	1565.8	1571.8	1565.8
155°	1596.3	1600.7	1605.6	1613.3	1608.3
157.5°	1637.3	1640.6	1643.3	1654.2	1646.6
160°	1673.9	1677.1	1678.8	1688.0	1681.5
162.5°	1707.7	1707.7	1709.3	1719.7	1712.0
165°	1736.6	1734.9	1734.9	1745.9	1738.3
167.5°	1762.8	1757.9	1757.9	1768.8	1761.2
170°	1782.5	1778.1	1776.4	1787.3	1778.1
172.5°	1796.1	1791.7	1790.1	1801.0	1791.7
175°	1807.0	1802.7	1799.3	1810.3	1801.0
177.5°	1813.0	1808.7	1805.3	1814.6	1805.3
180°	1810.3	1810.3	1810.3	1810.3	1810.3

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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	8.40	9.10	9.50	10.20	11.70	4.37	5.07	5.46	6.16	7.67
	3H	10.05	10.68	11.15	11.78	13.30	5.53	6.16	6.63	7.26	8.78
	4H	10.63	11.23	11.75	12.33	13.86	5.96	6.56	7.08	7.66	9.19
	6H	11.03	11.58	12.16	12.69	14.23	6.26	6.81	7.39	7.91	9.45
	8H	11.15	11.67	12.28	12.79	14.32	6.34	6.86	7.47	7.98	9.51
	12H	11.20	11.69	12.33	12.81	14.36	6.37	6.87	7.50	7.98	9.53
4H	2H	8.40	8.99	9.52	10.10	11.62	4.93	5.53	6.06	6.63	8.16
	3H	10.19	10.69	11.32	11.82	13.35	6.25	6.75	7.38	7.88	9.42
	4H	10.86	11.32	12.00	12.44	14.00	6.78	7.24	7.91	8.36	9.91
	6H	11.35	11.74	12.49	12.88	14.43	7.18	7.57	8.32	8.71	10.26
	8H	11.51	11.88	12.65	13.01	14.58	7.29	7.66	8.43	8.79	10.36
	12H	11.59	11.92	12.75	13.06	14.64	7.34	7.67	8.50	8.82	10.39
8H	4H	10.82	11.18	11.96	12.31	13.88	7.04	7.40	8.18	8.54	10.10
	6H	11.35	11.66	12.52	12.83	14.39	7.53	7.83	8.69	9.01	10.57
	8H	11.56	11.82	12.72	12.97	14.56	7.71	7.97	8.87	9.13	10.71
	12H	11.68	11.91	12.85	13.06	14.68	7.81	8.04	8.98	9.19	10.81
12H	4H	10.76	11.09	11.92	12.24	13.81	7.04	7.37	8.19	8.51	10.08
	6H	11.33	11.59	12.49	12.75	14.33	7.57	7.84	8.74	8.99	10.57
	8H	11.53	11.76	12.70	12.91	14.53	7.76	7.99	8.93	9.15	10.76