

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: P905687

Luminaire Tested: DFN2DIP-PN3F0-030D050US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905687
REPORT IS A COMBINATION OF REPORTS P901060 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D050US835-RLONL
Description: 3 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

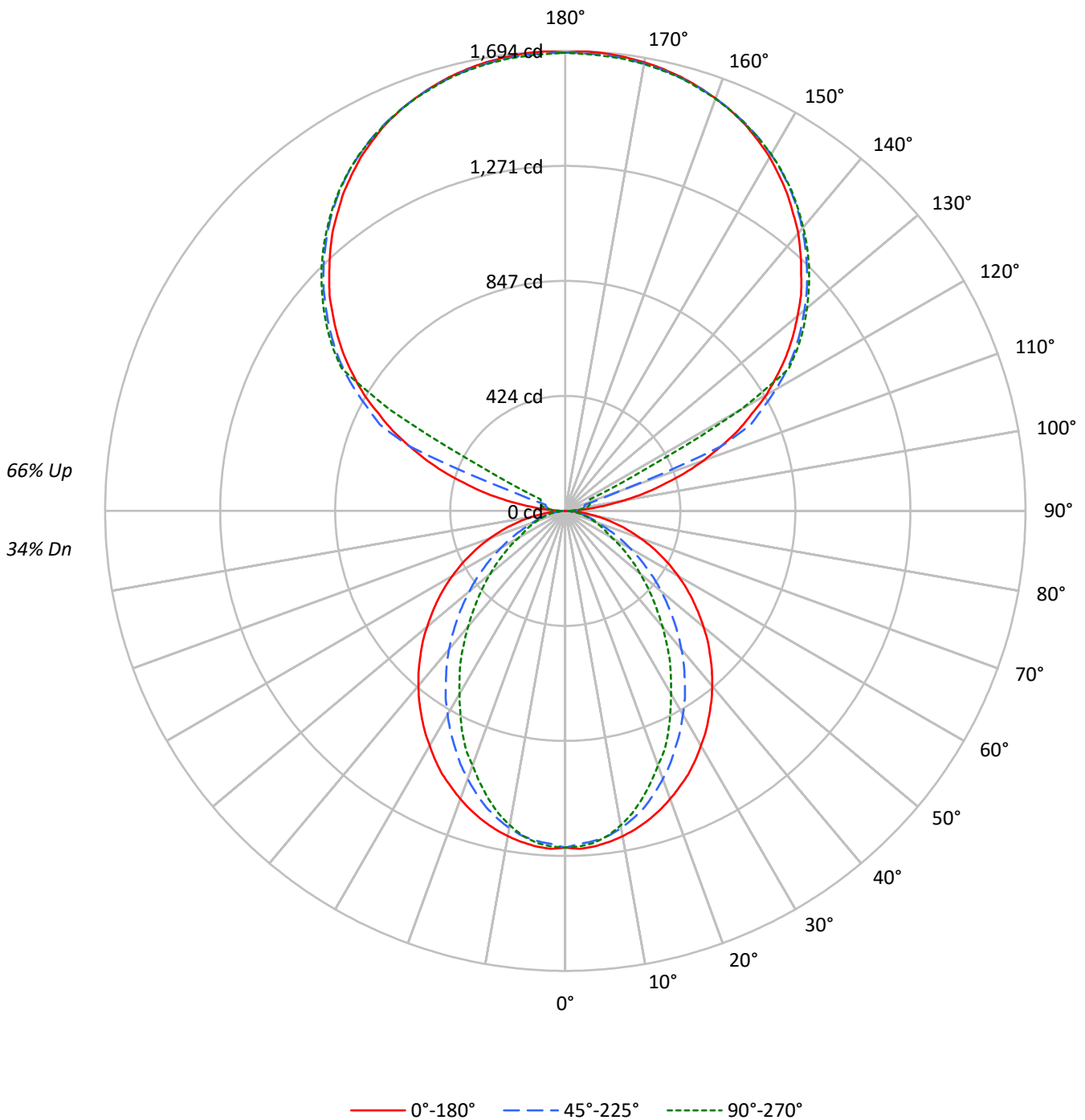
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7500.0 lumens
Efficiency: N/A
Efficacy: 121.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 61.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
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				20	
RC	80				70				50				30				10				0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34				34
1	95	90	87	83	85	82	79	76	66	64	62	51	49	48	37	36	36	29				29
2	86	79	74	69	78	72	67	63	58	54	52	45	43	41	33	32	30	25				25
3	79	70	63	58	71	63	58	53	51	47	44	40	37	35	30	28	26	22				22
4	72	62	55	49	65	56	50	45	46	41	37	36	33	30	27	25	23	19				19
5	66	55	48	42	60	50	44	39	41	36	32	32	29	26	24	22	20	17				17
6	61	50	42	36	55	45	39	34	37	32	28	29	26	23	22	20	18	15				15
7	57	45	37	32	51	41	34	30	34	29	25	27	23	20	20	18	16	13				13
8	52	41	33	28	47	37	31	26	31	26	22	24	21	18	19	16	14	12				12
9	49	37	30	25	44	34	28	23	28	23	20	22	19	16	17	15	13	11				11
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10				10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1449	1449	1449
5°	1451	1425	1435
10°	1436	1396	1388
15°	1415	1349	1315
20°	1388	1285	1226
25°	1360	1213	1140
30°	1324	1139	1031
35°	1287	1059	935
40°	1251	977	826
45°	1208	886	727
50°	1164	795	630
55°	1117	697	537
60°	1063	595	441
65°	1002	491	396
70°	927	394	358
75°	832	345	324
80°	696	286	279
85°	473	186	206

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1208 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	1.5
10°-20°	319.0	4.3
20°-30°	447.9	6.0
30°-40°	488.2	6.5
40°-50°	448.7	6.0
50°-60°	352.4	4.7
60°-70°	229.4	3.1
70°-80°	118.1	1.6
80°-90°	33.1	0.4
90°-100°	55.7	0.7
100°-110°	207.4	2.8
110°-120°	550.1	7.3
120°-130°	912.4	12.2
130°-140°	969.2	12.9
140°-150°	900.8	12.0
150°-160°	724.2	9.7
160°-170°	466.6	6.2
170°-180°	160.6	2.1
0°-30°	883.1	11.8
0°-40°	1371.3	18.3
0°-60°	2172.4	29.0
0°-90°	2552.9	34.0
90°-120°	813.2	10.8
90°-150°	3595.6	47.9
90°-180°	4947.0	66.0
0°-180°	7500.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1240	1234	1220	1230	1226	118
15°	1179	1167	1129	1108	1096	332
25°	1070	1034	960	914	898	492
35°	922	865	766	696	671	577
45°	754	679	561	481	454	582
55°	573	486	365	297	276	512
65°	387	296	195	157	154	384
75°	206	128	90	82	81	218
85°	48	25	21	21	21	55
90°	1	15	24	31	33	7
95°	79	39	48	54	52	94
105°	371	408	74	88	93	397
115°	702	723	753	188	100	691
125°	993	1009	1032	1040	1044	885
135°	1228	1248	1259	1271	1269	949
145°	1425	1424	1444	1453	1447	891
155°	1569	1558	1573	1580	1570	723
165°	1653	1646	1650	1658	1650	467
175°	1691	1682	1685	1694	1681	161
180°	1687	1687	1687	1687	1687	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1239.9	1239.9	1239.9	1239.9	1239.9
2.5°	1245.5	1239.9	1227.5	1238.8	1236.6
5°	1239.9	1234.3	1219.7	1229.8	1226.4
7.5°	1229.8	1223.1	1207.4	1211.8	1206.2
10°	1216.3	1208.5	1186.1	1182.6	1176.0
12.5°	1199.5	1189.4	1159.1	1152.4	1140.0
15°	1179.3	1166.9	1128.8	1107.5	1096.3
17.5°	1155.7	1137.8	1090.6	1066.0	1048.0
20°	1128.8	1106.3	1050.2	1022.3	997.5
22.5°	1099.7	1073.8	1008.7	970.6	953.8
25°	1070.5	1034.5	960.5	914.5	897.6
27.5°	1035.7	997.5	915.6	862.9	837.0
30°	998.7	956.0	866.2	809.1	778.7
32.5°	962.7	911.1	819.2	751.8	723.7
35°	922.4	865.1	766.4	695.7	671.0
37.5°	883.1	821.3	717.0	639.5	611.6
40°	841.6	774.3	665.4	585.7	556.6
42.5°	798.9	727.2	613.8	530.7	502.7
45°	754.1	678.8	561.1	481.3	454.4
47.5°	711.4	631.8	510.6	430.8	406.2
50°	664.3	584.6	461.2	383.7	360.2
52.5°	618.2	534.1	414.1	340.0	318.7
55°	573.3	485.8	364.6	297.4	276.1
57.5°	527.4	437.6	321.0	258.1	240.1
60°	480.2	390.5	274.9	217.7	199.8
62.5°	434.3	344.5	235.6	181.8	172.9
65°	387.1	296.2	195.2	157.1	153.7
67.5°	342.3	251.3	157.1	138.0	134.6
70°	295.1	207.6	130.1	118.9	114.4
72.5°	250.2	167.1	108.8	99.9	97.6
75°	206.4	127.9	89.8	81.9	80.8
77.5°	162.7	90.8	70.7	66.2	63.9
80°	122.3	65.1	53.8	49.4	49.4
82.5°	85.2	43.8	37.0	34.8	34.8
85°	48.2	24.6	21.3	21.3	21.3
87.5°	18.0	8.9	8.9	7.9	7.9
90°	1.2	14.6	24.4	30.6	32.9
92.5°	30.6	25.7	29.3	31.8	32.9
95°	79.3	39.0	47.6	53.8	52.5
97.5°	142.8	42.8	62.2	66.0	67.1
100°	216.2	48.9	69.6	79.3	81.8
102.5°	296.7	294.3	72.1	85.4	89.2
105°	371.2	407.9	74.5	87.9	92.8
107.5°	457.9	488.3	77.0	90.3	95.3
110°	541.0	566.5	213.7	91.6	96.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	619.1	641.0	620.3	94.0	97.7
115°	702.1	722.8	753.4	188.1	100.2
117.5°	774.1	798.5	819.4	644.6	324.8
120°	854.7	873.0	895.0	909.7	744.8
122.5°	923.0	942.6	967.1	974.4	975.7
125°	992.6	1008.6	1031.8	1040.3	1044.0
127.5°	1056.1	1073.2	1091.7	1103.8	1105.0
130°	1116.0	1135.6	1148.9	1162.4	1161.3
132.5°	1177.1	1193.0	1206.3	1217.4	1216.2
135°	1228.4	1248.0	1258.8	1271.2	1268.7
137.5°	1282.0	1296.7	1309.0	1321.2	1317.6
140°	1334.5	1344.4	1357.7	1368.7	1362.7
142.5°	1378.6	1387.2	1403.0	1412.7	1406.6
145°	1425.0	1423.7	1444.4	1453.0	1446.9
147.5°	1465.2	1461.5	1482.3	1488.4	1483.6
150°	1504.3	1495.8	1515.3	1522.6	1516.5
152.5°	1537.2	1527.5	1545.8	1553.2	1544.6
155°	1569.0	1558.1	1572.7	1580.0	1570.3
157.5°	1594.6	1584.9	1595.9	1604.5	1594.6
160°	1616.7	1609.3	1616.7	1623.9	1615.4
162.5°	1636.1	1628.9	1634.9	1643.5	1632.5
165°	1653.2	1646.0	1649.6	1658.1	1649.6
167.5°	1666.7	1659.3	1663.1	1671.6	1660.6
170°	1677.7	1670.3	1672.8	1681.3	1670.3
172.5°	1685.0	1677.7	1680.2	1688.7	1677.7
175°	1691.1	1682.5	1685.0	1693.5	1681.3
177.5°	1693.5	1685.0	1686.3	1694.8	1683.8
180°	1687.4	1687.4	1687.4	1687.4	1687.4



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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	6.69	7.41	7.78	8.49	9.98	2.66	3.37	3.75	4.46	5.94
	3H	8.36	8.99	9.45	10.09	11.59	3.83	4.47	4.93	5.56	7.07
	4H	8.95	9.56	10.06	10.65	12.16	4.27	4.88	5.38	5.97	7.48
	6H	9.37	9.92	10.48	11.02	12.54	4.58	5.14	5.70	6.24	7.76
	8H	9.49	10.02	10.61	11.13	12.64	4.67	5.20	5.79	6.31	7.82
	12H	9.54	10.04	10.66	11.15	12.69	4.70	5.21	5.83	6.31	7.85
4H	2H	6.69	7.30	7.81	8.39	9.90	3.24	3.84	4.35	4.94	6.44
	3H	8.51	9.01	9.63	10.13	11.65	4.57	5.07	5.69	6.19	7.71
	4H	9.19	9.65	10.31	10.76	12.30	5.11	5.57	6.23	6.68	8.22
	6H	9.69	10.09	10.82	11.22	12.75	5.51	5.91	6.65	7.04	8.58
	8H	9.86	10.23	10.99	11.36	12.90	5.64	6.01	6.77	7.13	8.68
	12H	9.95	10.28	11.10	11.42	12.97	5.69	6.03	6.84	7.16	8.72
8H	4H	9.15	9.52	10.28	10.64	12.19	5.38	5.75	6.51	6.87	8.42
	6H	9.70	10.01	10.85	11.17	12.72	5.88	6.19	7.03	7.35	8.90
	8H	9.91	10.18	11.07	11.33	12.89	6.07	6.33	7.23	7.48	9.05
	12H	10.04	10.28	11.20	11.42	13.02	6.18	6.41	7.34	7.55	9.15
12H	4H	9.09	9.43	10.24	10.56	12.12	5.37	5.71	6.52	6.85	8.40
	6H	9.68	9.94	10.83	11.09	12.66	5.93	6.19	7.09	7.34	8.91
	8H	9.89	10.12	11.05	11.26	12.87	6.13	6.36	7.29	7.51	9.11