

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: P915211

Luminaire Tested: DFN2DIP-TR2F0-030D060US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915211
REPORT IS A COMBINATION OF REPORTS P901784 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-030D060US927-RLLONL
Description: 2 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

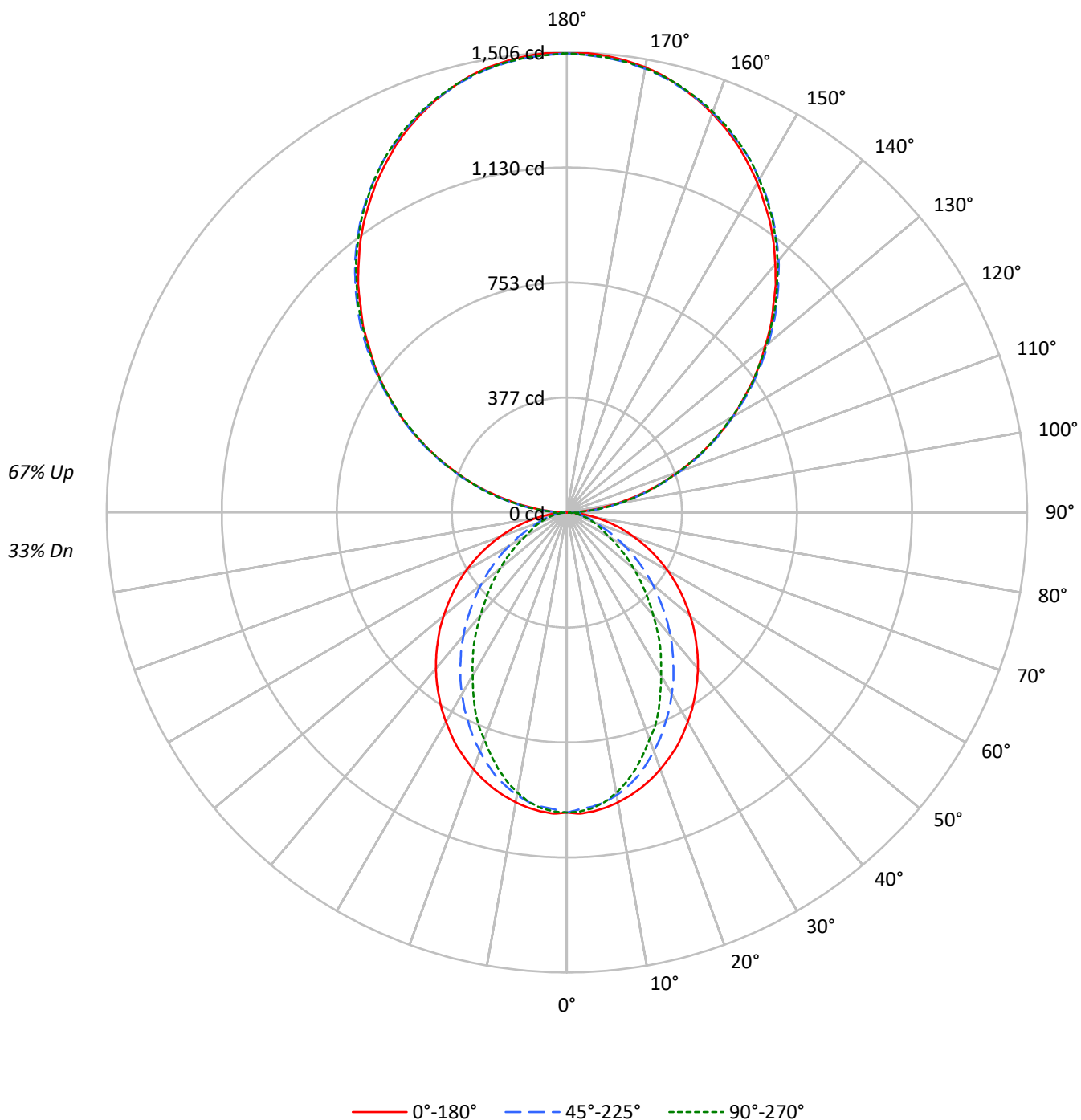
Lumens per Lamp: N/A
Luminaire Lumens: 6226.6 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 73.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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°	2191	2191	2191
5°	2191	2151	2166
10°	2166	2104	2092
15°	2133	2030	1980
20°	2090	1929	1843
25°	2047	1818	1711
30°	1989	1704	1545
35°	1932	1582	1400
40°	1875	1456	1233
45°	1808	1317	1083
50°	1738	1177	935
55°	1665	1028	795
60°	1581	874	651
65°	1484	717	582
70°	1366	571	521
75°	1217	494	466
80°	1004	401	393
85°	659	249	277

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1961 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	1.5
10°-20°	252.7	4.1
20°-30°	354.8	5.7
30°-40°	386.8	6.2
40°-50°	355.5	5.7
50°-60°	279.2	4.5
60°-70°	181.7	2.9
70°-80°	93.5	1.5
80°-90°	28.2	0.5
90°-100°	93.0	1.5
100°-110°	295.6	4.7
110°-120°	505.8	8.1
120°-130°	665.2	10.7
130°-140°	746.6	12.0
140°-150°	732.2	11.8
150°-160°	614.2	9.9
160°-170°	407.3	6.5
170°-180°	142.4	2.3
0°-30°	699.6	11.2
0°-40°	1086.3	17.4
0°-60°	1720.9	27.6
0°-90°	2024.3	32.5
90°-120°	894.4	14.4
90°-150°	3038.4	48.8
90°-180°	4202.0	67.5
0°-180°	6226.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	982	978	966	974	972	93
15°	934	924	894	877	868	263
25°	848	820	761	724	711	390
35°	731	685	607	551	532	457
45°	597	538	444	381	360	461
55°	454	385	289	236	219	406
65°	307	235	155	124	122	304
75°	164	101	71	65	64	173
85°	38	20	17	17	17	44
90°	1	16	44	42	43	6
95°	66	79	81	81	79	74
105°	273	276	279	282	282	288
115°	508	515	512	511	508	502
125°	738	750	746	742	740	660
135°	955	969	972	970	967	738
145°	1159	1168	1176	1177	1172	724
155°	1326	1329	1333	1340	1336	610
165°	1442	1441	1441	1450	1443	407
175°	1500	1497	1494	1503	1496	143
180°	1503	1503	1503	1503	1503	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	982.2	982.2	982.2	982.2	982.2
2.5°	986.7	982.2	972.4	981.4	979.6
5°	982.2	977.8	966.2	974.2	971.5
7.5°	974.2	968.9	956.5	960.0	955.5
10°	963.5	957.4	939.6	936.8	931.6
12.5°	950.2	942.2	918.2	912.9	903.1
15°	934.2	924.4	894.2	877.3	868.5
17.5°	915.5	901.3	864.0	844.5	830.2
20°	894.2	876.4	831.9	809.8	790.2
22.5°	871.2	850.6	799.1	768.9	755.6
25°	848.0	819.5	760.9	724.4	711.1
27.5°	820.5	790.2	725.3	683.6	663.1
30°	791.2	757.3	686.2	641.0	616.9
32.5°	762.6	721.8	649.0	595.6	573.3
35°	730.7	685.3	607.1	551.1	531.6
37.5°	699.6	650.6	568.0	506.6	484.5
40°	666.7	613.4	527.1	464.0	440.9
42.5°	632.9	576.1	486.2	420.4	398.2
45°	597.4	537.7	444.5	381.3	360.0
47.5°	563.6	500.5	404.5	341.3	321.8
50°	526.2	463.1	365.4	304.0	285.3
52.5°	489.7	423.1	328.0	269.3	252.5
55°	454.2	384.8	288.8	235.6	218.7
57.5°	417.8	346.7	254.3	204.5	190.2
60°	380.4	309.3	217.8	172.5	158.3
62.5°	344.0	272.9	186.6	144.0	137.0
65°	306.7	234.6	154.6	124.5	121.8
67.5°	271.2	199.1	124.5	109.3	106.6
70°	233.8	164.5	103.1	94.2	90.6
72.5°	198.2	132.4	86.2	79.1	77.3
75°	163.5	101.3	71.1	64.9	64.0
77.5°	128.9	71.9	56.0	52.4	50.6
80°	96.9	51.6	42.6	39.1	39.1
82.5°	67.5	34.7	29.3	27.6	27.6
85°	38.2	19.5	16.9	16.9	16.9
87.5°	14.3	7.1	7.1	6.3	6.3
90°	1.3	16.3	44.4	41.7	43.0
92.5°	28.1	38.1	39.5	40.8	40.8
95°	66.1	78.8	81.1	81.1	78.8
97.5°	110.1	121.9	126.9	126.9	126.9
100°	160.9	171.3	174.9	174.9	173.6
102.5°	214.4	222.0	227.0	228.4	227.0
105°	272.8	276.5	279.2	281.5	281.5
107.5°	330.8	336.3	336.3	337.2	330.8
110°	387.1	394.3	394.3	394.3	390.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	447.7	455.4	454.1	450.4	447.7
115°	507.6	514.8	512.5	511.2	507.6
117.5°	567.0	576.9	570.5	567.0	563.3
120°	626.8	636.8	626.8	626.8	622.7
122.5°	681.1	693.8	687.5	683.9	681.1
125°	738.2	749.6	745.9	741.9	740.5
127.5°	794.0	808.0	803.0	797.6	794.0
130°	846.1	862.4	860.2	857.5	852.5
132.5°	904.6	917.3	918.1	911.8	908.2
135°	954.9	968.9	971.6	970.3	966.6
137.5°	1011.1	1022.4	1024.7	1023.7	1018.3
140°	1060.5	1071.8	1078.2	1078.2	1073.2
142.5°	1111.2	1122.5	1126.2	1127.5	1122.5
145°	1159.3	1168.3	1175.6	1176.9	1172.0
147.5°	1202.3	1213.6	1219.1	1221.3	1216.3
150°	1246.7	1254.4	1259.4	1263.4	1259.4
152.5°	1286.1	1293.9	1300.2	1305.2	1300.2
155°	1325.6	1329.2	1333.2	1339.7	1335.5
157.5°	1359.5	1362.3	1364.5	1373.6	1367.3
160°	1390.0	1392.7	1394.0	1401.7	1396.3
162.5°	1418.0	1418.0	1419.4	1428.0	1421.6
165°	1442.0	1440.7	1440.7	1449.8	1443.4
167.5°	1463.8	1459.8	1459.8	1468.8	1462.4
170°	1480.1	1476.5	1475.1	1484.2	1476.5
172.5°	1491.4	1487.8	1486.4	1495.5	1487.8
175°	1500.5	1496.9	1494.1	1503.2	1495.5
177.5°	1505.5	1501.9	1499.1	1506.8	1499.1
180°	1503.2	1503.2	1503.2	1503.2	1503.2

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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	7.84	8.55	8.94	9.64	11.14	3.82	4.53	4.92	5.62	7.13
	3H	9.49	10.12	10.59	11.22	12.74	4.99	5.62	6.10	6.72	8.24
	4H	10.07	10.67	11.19	11.77	13.30	5.42	6.02	6.54	7.12	8.65
	6H	10.47	11.02	11.60	12.12	13.66	5.72	6.27	6.85	7.38	8.91
	8H	10.58	11.10	11.71	12.23	13.76	5.80	6.32	6.93	7.44	8.97
	12H	10.63	11.13	11.76	12.24	13.79	5.83	6.33	6.97	7.44	9.00
4H	2H	7.84	8.44	8.97	9.54	11.07	4.39	4.99	5.52	6.09	7.62
	3H	9.63	10.13	10.76	11.26	12.80	5.71	6.21	6.84	7.34	8.87
	4H	10.30	10.76	11.44	11.88	13.43	6.24	6.70	7.37	7.82	9.37
	6H	10.79	11.18	11.93	12.32	13.87	6.63	7.03	7.78	8.17	9.72
	8H	10.95	11.31	12.09	12.44	14.01	6.75	7.12	7.89	8.25	9.82
	12H	11.02	11.35	12.18	12.50	14.07	6.80	7.13	7.96	8.28	9.85
8H	4H	10.26	10.62	11.40	11.75	13.32	6.50	6.86	7.64	7.99	9.56
	6H	10.79	11.09	11.95	12.27	13.83	6.99	7.29	8.15	8.46	10.03
	8H	10.99	11.25	12.16	12.41	13.99	7.17	7.43	8.33	8.58	10.17
	12H	11.11	11.34	12.28	12.49	14.11	7.27	7.50	8.44	8.65	10.27
12H	4H	10.20	10.53	11.36	11.68	13.25	6.49	6.82	7.65	7.97	9.54
	6H	10.76	11.03	11.93	12.18	13.77	7.03	7.29	8.20	8.45	10.03
	8H	10.96	11.19	12.13	12.35	13.96	7.22	7.45	8.39	8.60	10.22