

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: P915208

Luminaire Tested: DFN2DIP-TR2F0-030D060US927-FLLFLL

Issue Date: 11/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P915208  
REPORT IS A COMBINATION OF REPORTS P900263 AND P897145  
Test Lab: INNOVATION CENTER  
Issue Date: 11/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DIP-TR2F0-030D060US927-FLLFLL  
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens  
Light Source: -  
Ballast/Driver: -

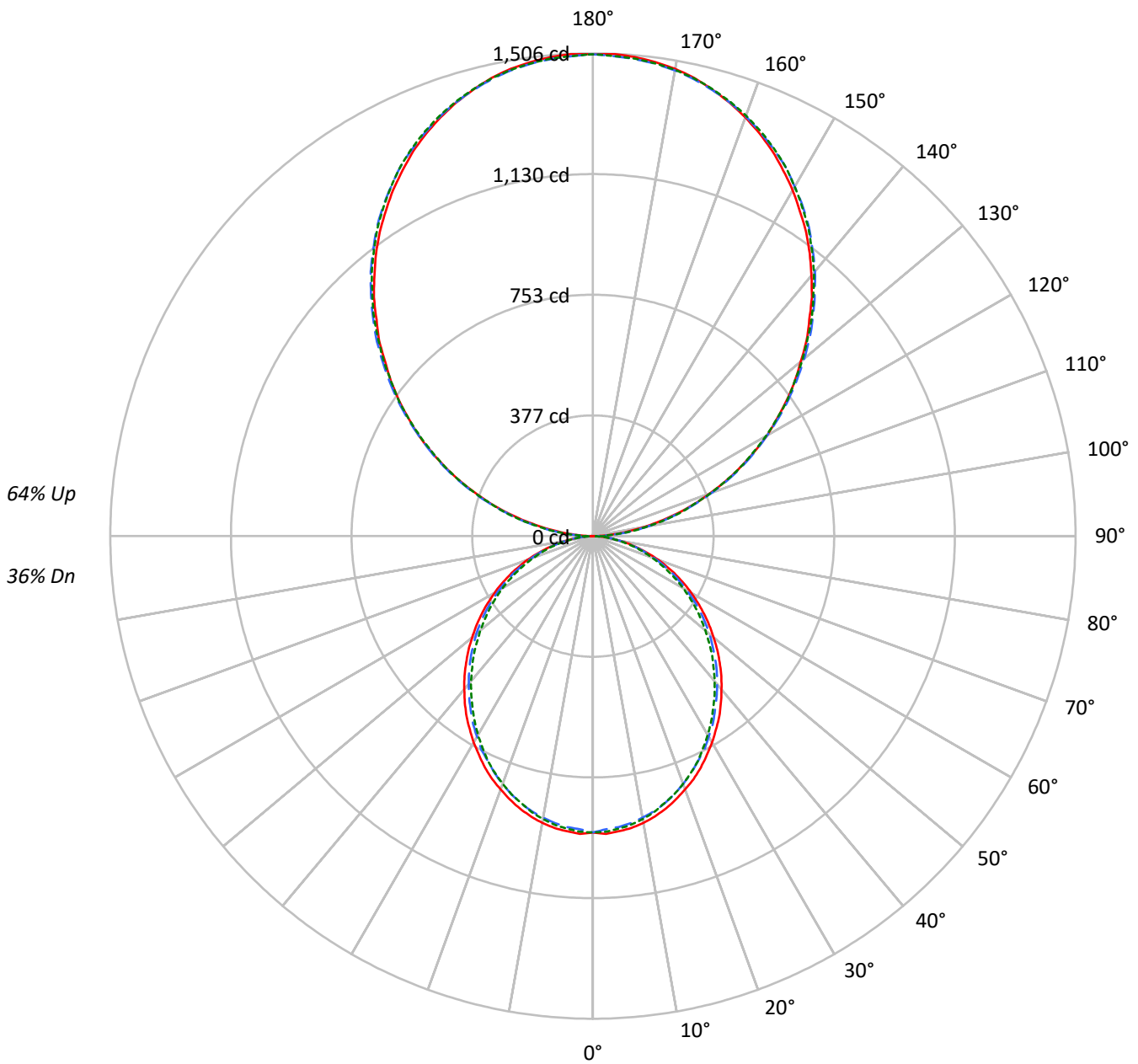
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6559.3 lumens  
Efficiency: N/A  
Efficacy: 89.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
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): 120  
Input Current (A<sub>in</sub>): 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



— 0°-180°    - - 45°-225°    ··· 90°-270°



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	43	43	43	36			36
1	95	90	87	83	85	82	79	76	66	64	62	52	50	49	38	37	36	30			30
2	86	79	73	68	78	72	66	62	58	54	51	45	43	41	34	32	31	25			25
3	79	69	62	56	71	63	57	52	51	47	43	40	37	34	30	28	26	21			21
4	72	61	54	48	65	56	49	44	45	40	37	36	32	29	27	24	22	18			18
5	66	54	47	41	59	50	43	38	40	35	31	32	28	25	24	22	20	16			16
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17	14			14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	20	20	17	15	12			12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	16	14	11			11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10			10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9			9

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2062	2062	2062
5°	2063	2029	2044
10°	2043	1997	2013
15°	2010	1960	1966
20°	1966	1910	1918
25°	1923	1850	1864
30°	1869	1795	1795
35°	1818	1730	1723
40°	1755	1665	1654
45°	1693	1599	1583
50°	1624	1530	1502
55°	1552	1450	1426
60°	1471	1356	1339
65°	1381	1257	1236
70°	1268	1138	1125
75°	1111	994	1018
80°	922	811	822
85°	628	511	510

**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°	87.0	1.3
10°-20°	244.9	3.7
20°-30°	359.9	5.5
30°-40°	418.0	6.4
40°-50°	417.5	6.4
50°-60°	364.0	5.5
60°-70°	269.1	4.1
70°-80°	152.3	2.3
80°-90°	44.4	0.7
90°-100°	93.0	1.4
100°-110°	295.6	4.5
110°-120°	505.8	7.7
120°-130°	665.2	10.1
130°-140°	746.6	11.4
140°-150°	732.2	11.2
150°-160°	614.2	9.4
160°-170°	407.3	6.2
170°-180°	142.4	2.2
0°-30°	691.8	10.5
0°-40°	1109.8	16.9
0°-60°	1891.3	28.8
0°-90°	2357.0	35.9
90°-120°	894.4	13.6
90°-150°	3038.4	46.3
90°-180°	4202.0	64.1
0°-180°	6559.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	925	921	911	918	917	88
15°	880	875	863	867	862	248
25°	797	790	774	776	774	367
35°	687	678	664	659	654	429
45°	559	553	540	530	526	432
55°	423	418	407	397	392	378
65°	286	280	271	263	259	282
75°	149	148	143	138	140	159
85°	36	36	35	32	31	41
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°	924.7	924.7	924.7	924.7	924.7
2.5°	930.1	925.7	915.8	924.7	923.0
5°	924.7	921.2	911.4	918.5	916.8
7.5°	918.5	913.2	903.4	910.6	908.8
10°	908.8	902.5	891.9	899.0	896.4
12.5°	895.4	890.1	879.5	883.8	882.1
15°	880.3	875.0	863.4	867.0	862.5
17.5°	861.6	856.3	844.7	849.1	844.7
20°	841.1	835.8	823.4	826.0	822.5
22.5°	820.8	812.8	801.1	801.1	799.3
25°	796.7	789.6	774.5	776.3	774.5
27.5°	770.0	763.7	752.3	749.6	745.2
30°	743.4	736.3	722.9	720.3	716.7
32.5°	714.9	709.6	695.4	690.0	686.4
35°	687.4	678.5	664.2	658.9	654.4
37.5°	656.2	648.2	634.0	627.7	623.3
40°	624.2	617.1	602.8	594.9	591.4
42.5°	593.1	586.0	571.8	562.8	557.5
45°	559.4	553.1	539.7	530.0	526.4
47.5°	526.4	520.2	506.0	496.1	490.8
50°	491.7	487.3	474.8	462.4	458.0
52.5°	458.0	451.7	440.2	430.4	424.1
55°	423.3	418.0	407.3	396.6	392.2
57.5°	388.6	384.1	372.6	361.9	358.3
60°	353.9	350.4	337.9	328.1	325.5
62.5°	320.1	313.9	305.0	296.1	292.6
65°	285.5	280.1	271.2	263.2	258.8
67.5°	249.9	245.4	237.4	231.2	227.7
70°	217.0	213.4	205.4	199.2	195.7
72.5°	183.2	179.6	175.2	169.0	166.4
75°	149.3	147.7	143.1	137.8	139.7
77.5°	119.1	115.6	113.8	111.1	108.5
80°	89.0	88.0	86.2	83.6	81.8
82.5°	60.4	60.4	59.7	56.0	56.0
85°	36.4	35.6	34.7	32.0	31.1
87.5°	16.0	14.3	12.4	9.8	8.9
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	8.19	8.94	9.26	10.01	11.47	7.77	8.52	8.84	9.59	11.05
	3H	9.82	10.49	10.90	11.57	13.05	9.36	10.03	10.44	11.11	12.59
	4H	10.39	11.02	11.48	12.11	13.59	9.93	10.57	11.02	11.65	13.13
	6H	10.76	11.35	11.86	12.43	13.93	10.31	10.89	11.40	11.97	13.47
	8H	10.86	11.41	11.96	12.51	14.00	10.40	10.96	11.50	12.06	13.54
	12H	10.89	11.42	12.00	12.52	14.03	10.43	10.96	11.54	12.05	13.57
4H	2H	8.63	9.27	9.73	10.35	11.83	8.29	8.93	9.39	10.01	11.49
	3H	10.46	10.99	11.56	12.10	13.59	10.08	10.61	11.18	11.72	13.21
	4H	11.15	11.64	12.26	12.74	14.25	10.76	11.24	11.87	12.34	13.86
	6H	11.64	12.06	12.75	13.18	14.69	11.24	11.66	12.36	12.78	14.29
	8H	11.77	12.16	12.89	13.28	14.80	11.38	11.77	12.49	12.88	14.40
	12H	11.83	12.18	12.96	13.31	14.84	11.42	11.78	12.56	12.90	14.43
8H	4H	11.33	11.72	12.44	12.83	14.36	10.98	11.37	12.09	12.48	14.01
	6H	11.93	12.25	13.06	13.40	14.93	11.58	11.90	12.71	13.05	14.58
	8H	12.13	12.41	13.27	13.55	15.09	11.78	12.06	12.92	13.19	14.73
	12H	12.24	12.49	13.39	13.62	15.20	11.87	12.12	13.02	13.25	14.83
12H	4H	11.31	11.66	12.44	12.79	14.32	10.96	11.32	12.10	12.44	13.97
	6H	11.95	12.23	13.09	13.37	14.91	11.61	11.89	12.75	13.03	14.57
	8H	12.17	12.42	13.32	13.55	15.13	11.82	12.07	12.97	13.21	14.78