

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: P915204

Luminaire Tested: DFN2DIP-TR2F0-030D050US927-FLLFLL

Issue Date: 11/21/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P915204  
REPORT IS A COMBINATION OF REPORTS P900253 AND P897145  
Test Lab: INNOVATION CENTER  
Issue Date: 11/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: DFN2DIP-TR2F0-030D050US927-FLLFLL  
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens  
Light Source: -  
Ballast/Driver: -

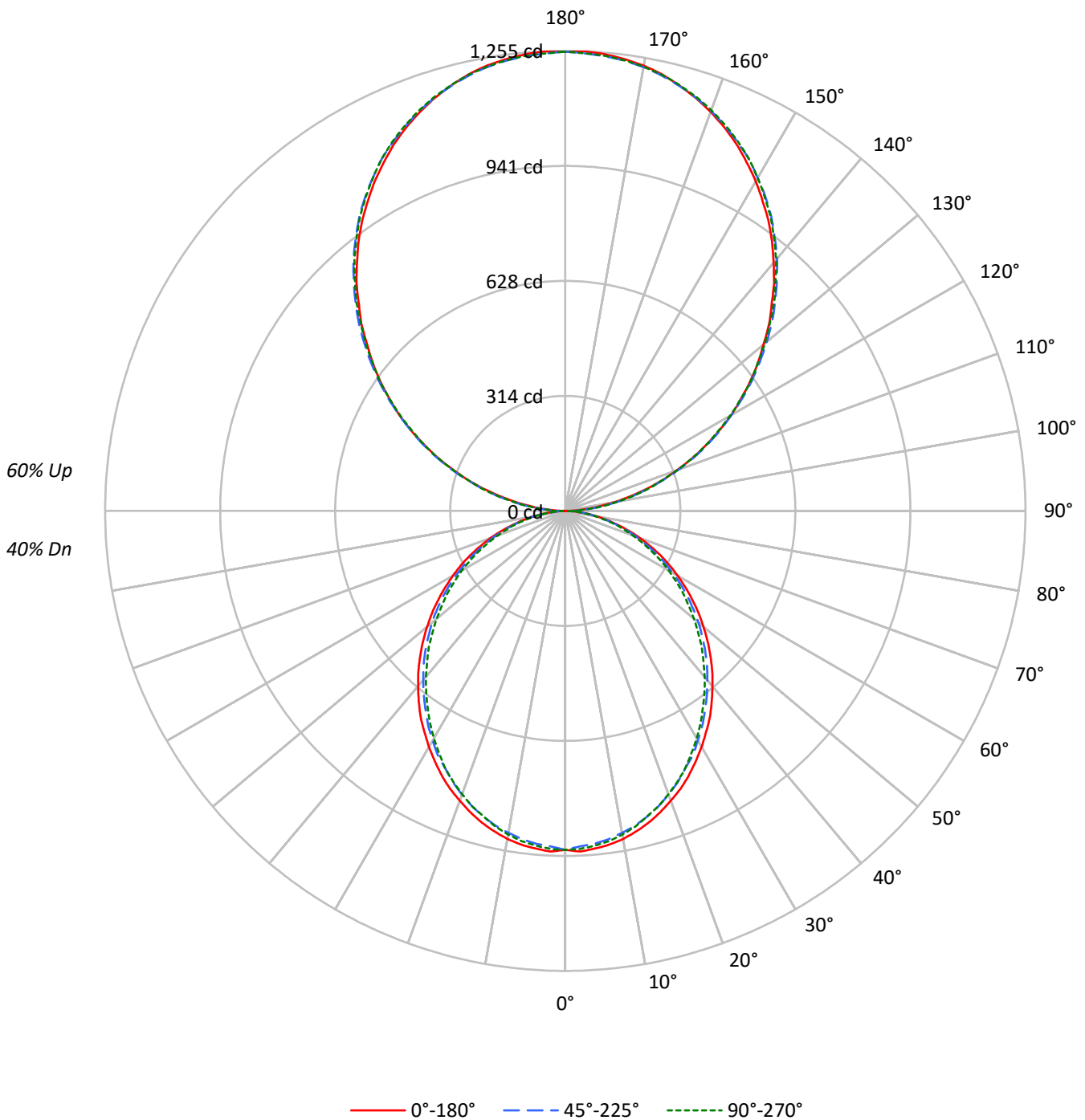
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5858.2 lumens  
Efficiency: N/A  
Efficacy: 92.0 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: General Diffuse

Input Watts (W): 63.7  
Input Voltage (V): 120  
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

TEST NUMBER: P915204  
CATALOG NUMBER: DFN2DIP-TR2F0-030D050US927-FLLFLL

### Luminous Intensity Polar Plot





TEST NUMBER: P915204  
 CATALOG NUMBER: DFN2DIP-TR2F0-030D050US927-FLLFLL

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	47	47	47	40
1	96	91	87	84	87	83	80	77	68	66	64	54	53	51	42	41	40	40	40	40	34
2	87	80	74	69	79	73	68	63	60	56	53	48	45	43	37	35	33	33	33	33	28
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28	28	28	28	24
4	73	62	54	48	66	57	50	45	47	42	38	38	34	31	29	27	25	25	25	25	21
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	23	21	21	21	21	18
6	61	49	41	36	56	45	38	33	38	32	28	30	27	24	24	21	19	19	19	19	16
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	17	17	17	14
8	52	40	33	28	48	37	30	26	31	26	22	25	21	18	20	17	15	15	15	15	13
9	49	37	29	24	44	34	27	23	28	23	20	23	19	17	18	16	14	14	14	14	11
10	46	34	27	22	41	31	25	20	26	21	18	21	18	15	17	14	12	12	12	12	10

**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: 0°  
 Vertical Angle: 45°  
 Luminance: 1693 cd/sqm



TEST NUMBER: P915204

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US927-FLLFLL

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.0	1.5
10°-20°	244.9	4.2
20°-30°	359.9	6.1
30°-40°	418.0	7.1
40°-50°	417.5	7.1
50°-60°	364.0	6.2
60°-70°	269.1	4.6
70°-80°	152.3	2.6
80°-90°	43.7	0.7
90°-100°	77.5	1.3
100°-110°	246.3	4.2
110°-120°	421.5	7.2
120°-130°	554.3	9.5
130°-140°	622.2	10.6
140°-150°	610.1	10.4
150°-160°	511.8	8.7
160°-170°	339.4	5.8
170°-180°	118.6	2.0
0°-30°	691.8	11.8
0°-40°	1109.8	18.9
0°-60°	1891.3	32.3
0°-90°	2356.3	40.2
90°-120°	745.3	12.7
90°-150°	2532.0	43.2
90°-180°	3502.0	59.8
0°-180°	5858.2	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	14	37	35	36	6
95°	55	66	68	68	66	61
105°	227	230	233	234	234	240
115°	423	429	427	426	423	418
125°	615	625	622	618	617	550
135°	796	807	810	809	806	615
145°	966	974	980	981	977	604
155°	1105	1108	1111	1116	1113	508
165°	1202	1201	1201	1208	1203	339
175°	1250	1247	1245	1253	1246	119
180°	1253	1253	1253	1253	1253	



TEST NUMBER: P915204

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US927-FLLFLL

**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°	1.1	13.6	37.0	34.8	35.9
92.5°	23.4	31.7	32.9	34.0	34.0
95°	55.1	65.8	67.6	67.6	65.8
97.5°	91.7	101.6	105.8	105.8	105.8
100°	134.0	142.8	145.8	145.8	144.7
102.5°	178.6	185.1	189.2	190.4	189.2
105°	227.4	230.4	232.7	234.5	234.5
107.5°	275.7	280.2	280.2	281.0	275.7
110°	322.5	328.6	328.6	328.6	325.5



TEST NUMBER: P915204

CATALOG NUMBER: DFN2DIP-TR2F0-030D050US927-FLLFLL

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	373.1	379.5	378.4	375.4	373.1
115°	422.9	429.0	427.1	426.0	422.9
117.5°	472.5	480.8	475.5	472.5	469.4
120°	522.3	530.6	522.3	522.3	518.9
122.5°	567.6	578.2	572.9	569.9	567.6
125°	615.2	624.6	621.6	618.2	617.1
127.5°	661.6	673.4	669.2	664.6	661.6
130°	705.1	718.7	716.8	714.5	710.3
132.5°	753.8	764.4	765.2	759.9	756.8
135°	795.7	807.4	809.7	808.6	805.6
137.5°	842.6	852.0	853.9	853.1	848.6
140°	883.7	893.2	898.4	898.4	894.3
142.5°	926.0	935.5	938.5	939.6	935.5
145°	966.1	973.6	979.6	980.8	976.6
147.5°	1002.0	1011.4	1015.9	1017.8	1013.6
150°	1038.9	1045.4	1049.5	1052.9	1049.5
152.5°	1071.8	1078.2	1083.5	1087.7	1083.5
155°	1104.6	1107.6	1111.0	1116.3	1112.9
157.5°	1133.0	1135.2	1137.1	1144.7	1139.4
160°	1158.2	1160.5	1161.7	1168.1	1163.6
162.5°	1181.7	1181.7	1182.8	1190.0	1184.7
165°	1201.7	1200.6	1200.6	1208.2	1202.8
167.5°	1219.8	1216.4	1216.4	1224.0	1218.7
170°	1233.4	1230.4	1229.3	1236.8	1230.4
172.5°	1242.9	1239.8	1238.7	1246.3	1239.8
175°	1250.5	1247.4	1245.2	1252.7	1246.3
177.5°	1254.6	1251.6	1249.3	1255.7	1249.3
180°	1252.7	1252.7	1252.7	1252.7	1252.7



TEST NUMBER: P915204  
 CATALOG NUMBER: DFN2DIP-TR2F0-030D050US927-FLLFLL

**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	8.68	9.46	9.72	10.50	11.91	8.26	9.04	9.29	10.08	11.48
	3H	10.31	11.01	11.36	12.06	13.48	9.85	10.55	10.90	11.60	13.02
	4H	10.88	11.54	11.94	12.59	14.03	10.42	11.08	11.48	12.14	13.57
	6H	11.26	11.87	12.32	12.92	14.37	10.80	11.41	11.86	12.46	13.91
	8H	11.35	11.93	12.42	13.00	14.44	10.89	11.47	11.96	12.55	13.98
	12H	11.39	11.94	12.46	13.00	14.47	10.92	11.47	12.00	12.54	14.00
4H	2H	9.12	9.78	10.19	10.84	12.27	8.78	9.45	9.85	10.50	11.93
	3H	10.95	11.51	12.03	12.59	14.03	10.57	11.12	11.64	12.20	13.65
	4H	11.64	12.15	12.72	13.22	14.69	11.25	11.76	12.33	12.83	14.30
	6H	12.13	12.57	13.22	13.66	15.12	11.74	12.17	12.82	13.27	14.73
	8H	12.27	12.68	13.36	13.76	15.24	11.87	12.28	12.96	13.37	14.84
	12H	12.33	12.70	13.43	13.80	15.28	11.92	12.29	13.03	13.39	14.87
8H	4H	11.82	12.23	12.91	13.32	14.79	11.47	11.88	12.56	12.97	14.44
	6H	12.42	12.76	13.53	13.89	15.36	12.07	12.41	13.18	13.54	15.01
	8H	12.63	12.92	13.75	14.04	15.53	12.27	12.57	13.39	13.68	15.17
	12H	12.74	13.00	13.86	14.11	15.64	12.37	12.63	13.49	13.74	15.27
12H	4H	11.80	12.17	12.91	13.27	14.75	11.46	11.83	12.57	12.93	14.41
	6H	12.45	12.74	13.57	13.86	15.35	12.11	12.40	13.22	13.51	15.01
	8H	12.67	12.93	13.79	14.04	15.57	12.32	12.58	13.44	13.69	15.22