

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: P918058

Luminaire Tested: DFN2DIP-TR3F0-050D040US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P918058
REPORT IS A COMBINATION OF REPORTS P900290 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-050D040US930-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

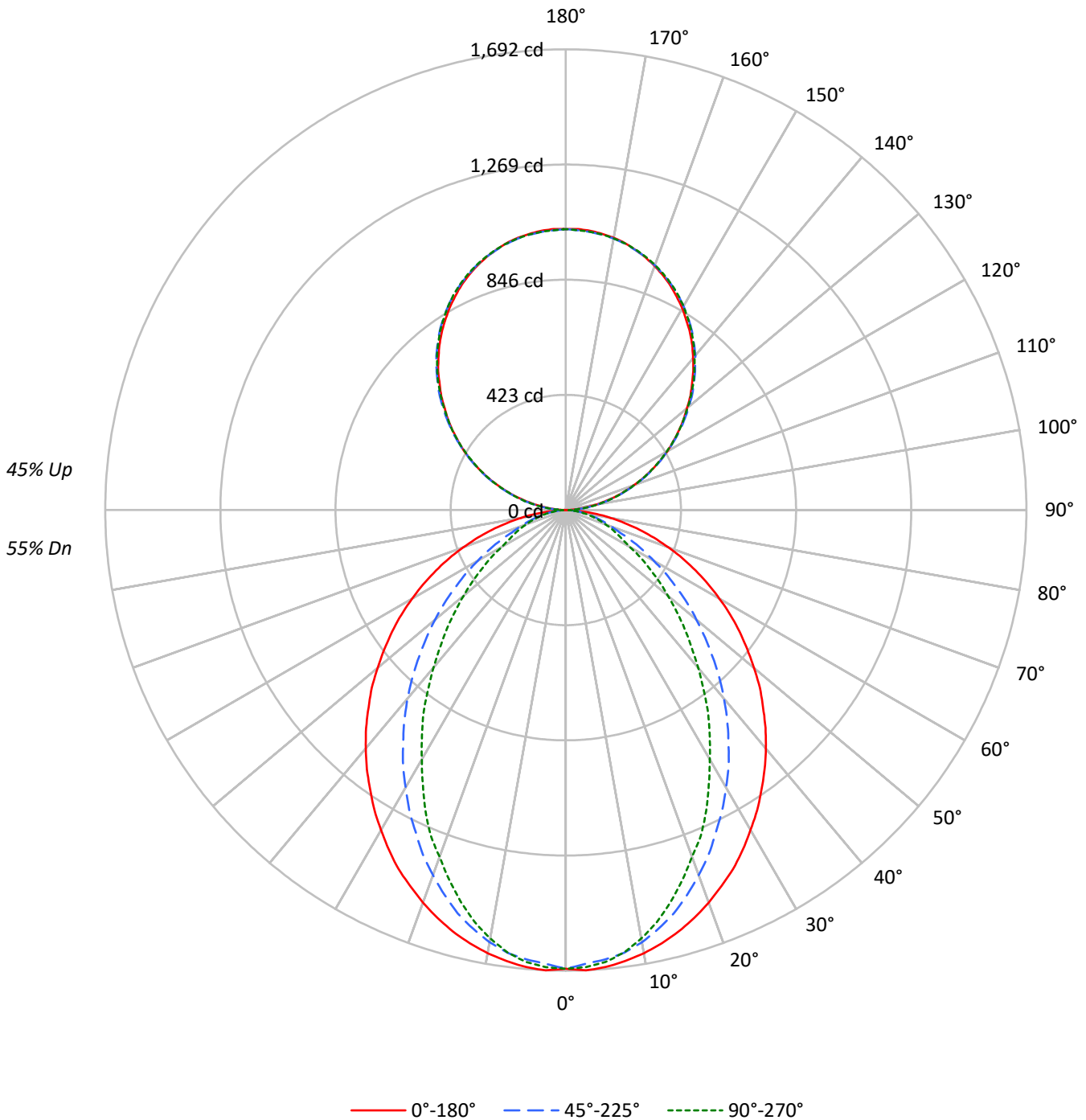
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6351.1 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 74.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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		0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	108	108	108	108	100	100	100	100	86	86	86	73	73	73	60	60	60	55		
1	99	95	91	88	92	89	85	82	76	74	72	65	63	62	54	53	52	47		
2	91	84	78	73	84	78	73	69	67	63	60	57	55	52	48	46	45	40		
3	83	74	67	61	77	69	63	58	60	55	51	51	48	45	43	41	39	35		
4	76	66	58	52	71	62	55	50	54	48	44	46	42	39	39	36	34	30		
5	70	59	51	45	65	55	48	43	48	43	38	42	37	34	35	32	30	27		
6	65	53	45	40	60	50	43	38	44	38	34	38	33	30	32	29	26	24		
7	60	48	40	35	56	45	38	33	40	34	30	35	30	27	30	26	24	21		
8	56	44	36	31	52	41	34	30	36	31	27	32	27	24	27	24	21	19		
9	52	40	33	28	49	38	31	27	34	28	24	29	25	22	25	22	19	17		
10	49	37	30	25	46	35	28	24	31	26	22	27	23	20	24	20	18	16		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2099	2099	2099
5°	2102	2064	2078
10°	2080	2022	2009
15°	2050	1954	1903
20°	2011	1860	1774
25°	1971	1755	1649
30°	1918	1648	1491
35°	1865	1533	1352
40°	1812	1413	1194
45°	1750	1282	1050
50°	1686	1149	909
55°	1619	1007	774
60°	1542	859	636
65°	1452	709	571
70°	1344	569	515
75°	1208	498	465
80°	1011	412	399
85°	688	266	291

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1750 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.9	2.5
10°-20°	433.5	6.8
20°-30°	608.6	9.6
30°-40°	663.4	10.4
40°-50°	609.7	9.6
50°-60°	478.8	7.5
60°-70°	311.7	4.9
70°-80°	160.4	2.5
80°-90°	43.9	0.7
90°-100°	63.8	1.0
100°-110°	202.8	3.2
110°-120°	347.0	5.5
120°-130°	456.4	7.2
130°-140°	512.3	8.1
140°-150°	502.4	7.9
150°-160°	421.4	6.6
160°-170°	279.5	4.4
170°-180°	97.7	1.5
0°-30°	1200.0	18.9
0°-40°	1863.4	29.3
0°-60°	2951.9	46.5
0°-90°	3467.9	54.6
90°-120°	613.6	9.7
90°-150°	2084.7	32.8
90°-180°	2883.0	45.4
0°-180°	6351.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1685	1685	1685	1685	1685	
5°	1685	1677	1657	1671	1667	160
15°	1602	1586	1534	1505	1490	452
25°	1455	1406	1305	1243	1220	669
35°	1253	1176	1042	945	912	784
45°	1025	922	762	654	617	791
55°	779	660	496	404	375	696
65°	526	402	265	214	209	521
75°	280	174	122	111	110	297
85°	66	34	29	29	29	75
90°	1	11	30	29	30	6
95°	45	54	56	56	54	51
105°	187	190	192	193	193	198
115°	348	353	352	351	348	344
125°	506	514	512	509	508	453
135°	655	665	667	666	663	506
145°	795	802	807	808	804	497
155°	910	912	915	919	916	419
165°	989	988	988	995	990	279
175°	1030	1027	1025	1031	1026	98
180°	1031	1031	1031	1031	1031	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1684.8	1684.8	1684.8	1684.8	1684.8
2.5°	1692.4	1684.8	1668.0	1683.3	1680.2
5°	1684.8	1677.2	1657.3	1671.0	1666.6
7.5°	1671.0	1662.0	1640.6	1646.7	1639.0
10°	1652.8	1642.1	1611.7	1607.0	1597.9
12.5°	1629.9	1616.2	1575.0	1565.9	1549.1
15°	1602.5	1585.7	1533.9	1505.0	1489.7
17.5°	1570.4	1546.1	1482.0	1448.5	1424.0
20°	1533.9	1503.3	1427.1	1389.1	1355.4
22.5°	1494.3	1459.1	1370.7	1318.9	1296.1
25°	1454.6	1405.7	1305.1	1242.7	1219.7
27.5°	1407.4	1355.4	1244.1	1172.5	1137.4
30°	1357.1	1299.0	1177.0	1099.3	1058.1
32.5°	1308.2	1238.0	1113.1	1021.6	983.4
35°	1253.4	1175.6	1041.5	945.3	911.7
37.5°	1200.0	1116.1	974.4	869.0	831.0
40°	1143.5	1052.1	904.1	795.9	756.3
42.5°	1085.7	988.1	834.1	721.1	683.1
45°	1024.7	922.4	762.4	654.0	617.4
47.5°	966.7	858.5	693.8	585.5	552.0
50°	902.7	794.4	626.7	521.4	489.5
52.5°	840.1	725.7	562.6	462.0	433.1
55°	779.1	660.1	495.5	404.1	375.1
57.5°	716.6	594.7	436.1	350.7	326.3
60°	652.6	530.6	373.5	295.9	271.4
62.5°	590.1	468.1	320.2	247.0	234.9
65°	526.0	402.5	265.3	213.5	208.9
67.5°	465.0	341.5	213.5	187.5	183.0
70°	401.0	282.1	176.8	161.6	155.5
72.5°	340.1	227.1	147.9	135.7	132.6
75°	280.5	173.7	122.0	111.3	109.8
77.5°	221.1	123.4	96.1	89.9	86.8
80°	166.2	88.5	73.1	67.1	67.1
82.5°	115.9	59.5	50.3	47.2	47.2
85°	65.5	33.5	28.9	28.9	28.9
87.5°	24.5	12.1	12.1	10.7	10.7
90°	0.9	11.2	30.5	28.6	29.5
92.5°	19.2	26.1	27.1	28.0	28.0
95°	45.4	54.1	55.7	55.7	54.1
97.5°	75.6	83.6	87.1	87.1	87.1
100°	110.4	117.6	120.0	120.0	119.1
102.5°	147.1	152.4	155.8	156.7	155.8
105°	187.2	189.6	191.5	193.1	193.1
107.5°	227.0	230.7	230.7	231.3	227.0
110°	265.5	270.5	270.5	270.5	268.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	307.2	312.5	311.5	309.1	307.2
115°	348.2	353.3	351.6	350.7	348.2
117.5°	389.0	395.8	391.5	389.0	386.5
120°	430.1	436.8	430.1	430.1	427.2
122.5°	467.3	476.1	471.7	469.2	467.3
125°	506.5	514.3	511.8	509.0	508.1
127.5°	544.8	554.4	551.0	547.2	544.8
130°	580.5	591.7	590.2	588.3	584.9
132.5°	620.6	629.3	630.0	625.6	623.1
135°	655.2	664.8	666.7	665.7	663.2
137.5°	693.7	701.5	703.0	702.4	698.7
140°	727.6	735.4	739.7	739.7	736.3
142.5°	762.5	770.2	772.7	773.6	770.2
145°	795.4	801.6	806.6	807.6	804.1
147.5°	824.9	832.7	836.4	838.0	834.5
150°	855.4	860.7	864.1	866.9	864.1
152.5°	882.5	887.7	892.1	895.5	892.1
155°	909.5	912.0	914.8	919.2	916.3
157.5°	932.9	934.7	936.2	942.5	938.1
160°	953.7	955.5	956.4	961.7	958.0
162.5°	972.9	972.9	973.9	979.7	975.4
165°	989.4	988.5	988.5	994.7	990.3
167.5°	1004.4	1001.5	1001.5	1007.8	1003.4
170°	1015.5	1013.0	1012.1	1018.3	1013.0
172.5°	1023.3	1020.8	1019.9	1026.1	1020.8
175°	1029.6	1027.0	1025.2	1031.4	1026.1
177.5°	1033.0	1030.5	1028.6	1033.9	1028.6
180°	1031.4	1031.4	1031.4	1031.4	1031.4



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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	10.09	10.96	11.01	11.90	13.10	6.07	6.94	6.99	7.87	9.08
	3H	11.76	12.54	12.70	13.49	14.72	7.25	8.03	8.19	8.98	10.21
	4H	12.37	13.10	13.32	14.05	15.29	7.70	8.44	8.65	9.39	10.63
	6H	12.78	13.46	13.74	14.41	15.67	8.02	8.70	8.98	9.65	10.90
	8H	12.91	13.55	13.87	14.52	15.77	8.11	8.75	9.08	9.72	10.97
	12H	12.96	13.58	13.94	14.54	15.82	8.15	8.76	9.12	9.73	11.00
4H	2H	10.11	10.85	11.07	11.80	13.04	6.66	7.40	7.62	8.35	9.59
	3H	11.93	12.54	12.90	13.53	14.78	8.01	8.62	8.97	9.60	10.85
	4H	12.62	13.18	13.60	14.15	15.43	8.55	9.11	9.53	10.09	11.36
	6H	13.13	13.61	14.12	14.61	15.88	8.97	9.45	9.96	10.45	11.72
	8H	13.30	13.75	14.29	14.74	16.03	9.10	9.54	10.08	10.53	11.83
	12H	13.39	13.79	14.40	14.80	16.10	9.16	9.56	10.16	10.57	11.87
8H	4H	12.59	13.04	13.58	14.03	15.32	8.83	9.28	9.82	10.27	11.56
	6H	13.15	13.52	14.16	14.55	15.84	9.34	9.71	10.36	10.75	12.03
	8H	13.36	13.68	14.38	14.70	16.01	9.53	9.85	10.55	10.88	12.18
	12H	13.49	13.78	14.52	14.79	16.15	9.64	9.93	10.67	10.95	12.30
12H	4H	12.54	12.95	13.55	13.95	15.25	8.84	9.24	9.84	10.25	11.54
	6H	13.12	13.45	14.14	14.47	15.78	9.39	9.72	10.41	10.74	12.04
	8H	13.34	13.62	14.36	14.64	15.99	9.60	9.88	10.62	10.90	12.25