

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: P915224

Luminaire Tested: DFN2DIP-TR2F0-040D050US927-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P915224
REPORT IS A COMBINATION OF REPORTS P900255 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-040D050US927-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

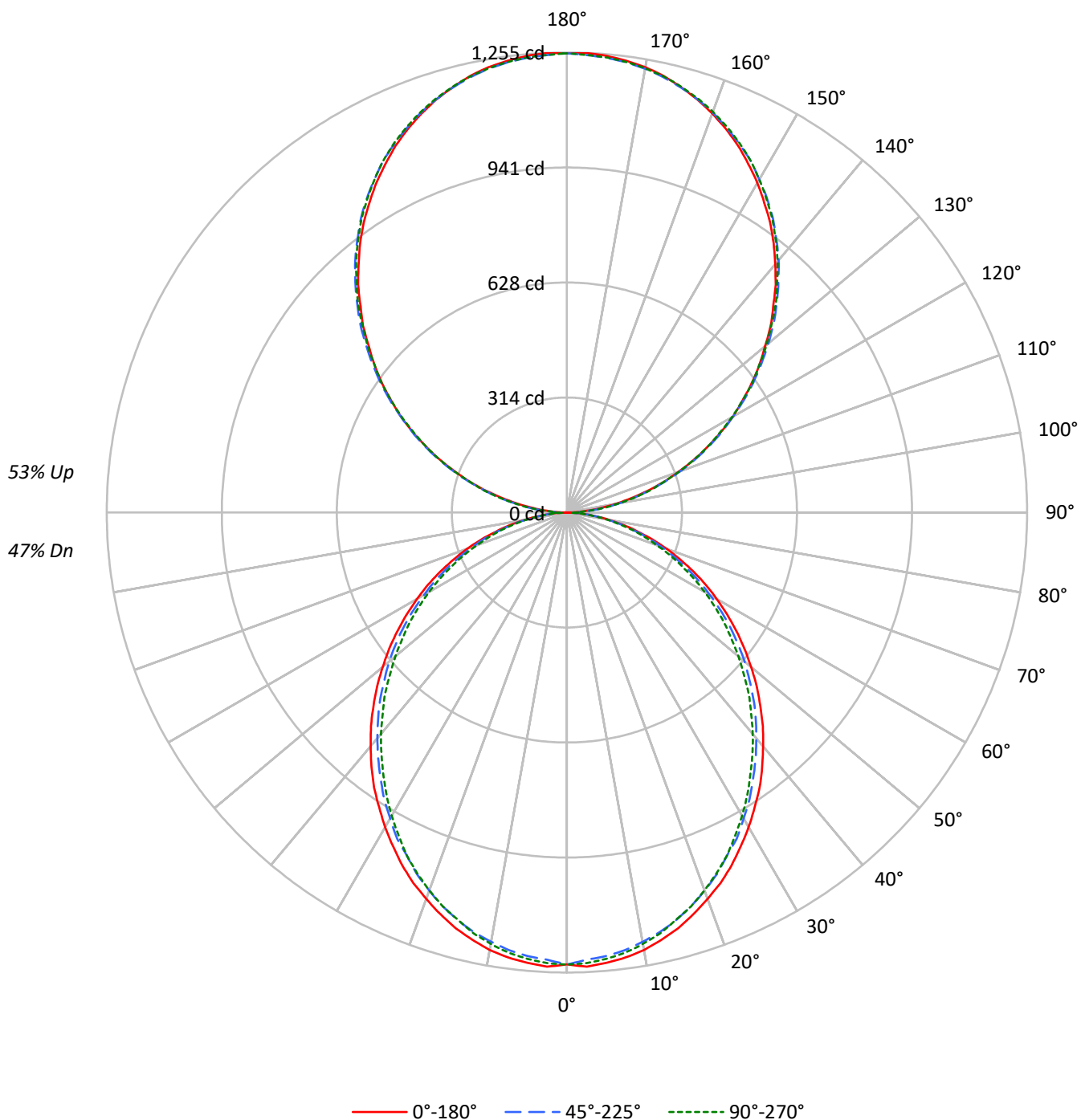
Lumens per Lamp: N/A
Luminaire Lumens: 6642.5 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 74.5
Input Voltage (V): 120
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					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47	47	47
1	97	93	89	85	89	85	82	79	72	69	67	59	57	56	47	46	45	40	40	40
2	88	81	75	70	81	75	69	65	63	59	56	52	49	47	42	40	38	33	33	33
3	81	71	64	58	74	66	59	54	55	51	47	46	42	39	37	35	32	28	28	28
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	33	30	28	24	24	24
5	68	56	48	42	62	52	45	39	44	39	34	37	33	29	30	27	24	21	21	21
6	62	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	21	19	19	19
7	58	45	38	32	53	42	35	30	36	30	26	30	26	23	25	21	19	16	16	16
8	54	41	34	28	49	38	31	27	33	27	23	28	23	20	23	19	17	15	15	15
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	15	13	13	13
10	47	35	27	23	43	32	26	21	28	22	19	23	19	16	19	16	14	12	12	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2750	2750	2750
5°	2750	2705	2725
10°	2724	2663	2684
15°	2680	2613	2621
20°	2622	2546	2558
25°	2563	2467	2485
30°	2492	2393	2394
35°	2424	2307	2297
40°	2340	2220	2205
45°	2257	2132	2111
50°	2166	2040	2002
55°	2070	1933	1901
60°	1961	1808	1785
65°	1841	1676	1648
70°	1690	1517	1500
75°	1482	1325	1357
80°	1228	1080	1097
85°	838	682	681

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2257 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	1.7
10°-20°	326.5	4.9
20°-30°	479.8	7.2
30°-40°	557.3	8.4
40°-50°	556.6	8.4
50°-60°	485.3	7.3
60°-70°	358.8	5.4
70°-80°	203.0	3.1
80°-90°	57.1	0.9
90°-100°	77.5	1.2
100°-110°	246.3	3.7
110°-120°	421.5	6.3
120°-130°	554.3	8.3
130°-140°	622.2	9.4
140°-150°	610.1	9.2
150°-160°	511.8	7.7
160°-170°	339.4	5.1
170°-180°	118.6	1.8
0°-30°	922.4	13.9
0°-40°	1479.7	22.3
0°-60°	2521.7	38.0
0°-90°	3140.6	47.3
90°-120°	745.3	11.2
90°-150°	2532.0	38.1
90°-180°	3502.0	52.7
0°-180°	6642.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1233	1233	1233	1233	1233	
5°	1233	1228	1215	1225	1222	117
15°	1174	1167	1151	1156	1150	331
25°	1062	1053	1033	1035	1033	489
35°	916	905	886	878	873	572
45°	746	738	720	707	702	576
55°	564	557	543	529	523	505
65°	381	373	362	351	345	376
75°	199	197	191	184	186	213
85°	49	48	46	43	42	54
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	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1233.0	1233.0	1233.0	1233.0	1233.0
2.5°	1240.2	1234.2	1221.1	1233.0	1230.7
5°	1233.0	1228.3	1215.2	1224.6	1222.4
7.5°	1224.6	1217.6	1204.5	1214.1	1211.7
10°	1211.7	1203.4	1189.2	1198.6	1195.1
12.5°	1193.8	1186.8	1172.6	1178.5	1176.1
15°	1173.7	1166.6	1151.2	1156.0	1150.1
17.5°	1148.8	1141.8	1126.3	1132.2	1126.3
20°	1121.5	1114.4	1097.9	1101.4	1096.8
22.5°	1094.3	1083.6	1068.2	1068.2	1065.8
25°	1062.2	1052.8	1032.7	1035.0	1032.7
27.5°	1026.7	1018.3	1003.1	999.5	993.6
30°	991.2	981.7	963.9	960.4	955.6
32.5°	953.2	946.2	927.2	920.0	915.2
35°	916.5	904.7	885.7	878.5	872.6
37.5°	875.0	864.3	845.3	837.0	831.1
40°	832.3	822.8	803.7	793.2	788.5
42.5°	790.8	781.2	762.4	750.4	743.4
45°	745.8	737.5	719.6	706.7	701.9
47.5°	701.9	693.6	674.6	661.6	654.5
50°	655.6	649.7	633.1	616.5	610.5
52.5°	610.5	602.3	586.9	573.9	565.5
55°	564.4	557.2	543.0	528.8	522.9
57.5°	518.1	512.2	496.7	482.5	477.8
60°	471.8	467.1	450.6	437.5	434.0
62.5°	426.8	418.5	406.7	394.8	390.1
65°	380.6	373.4	361.6	350.9	345.1
67.5°	333.2	327.2	316.6	308.3	303.6
70°	289.3	284.6	273.9	265.5	260.9
72.5°	244.3	239.5	233.6	225.3	221.7
75°	199.2	196.9	190.8	183.8	186.2
77.5°	158.8	154.1	151.7	148.1	144.7
80°	118.6	117.3	114.9	111.5	109.1
82.5°	80.6	80.6	79.5	74.7	74.7
85°	48.6	47.5	46.3	42.6	41.5
87.5°	21.4	19.0	16.6	13.1	11.8
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

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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

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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	10.40	11.24	11.38	12.23	13.54	9.98	10.81	10.96	11.81	13.12
	3H	12.03	12.79	13.03	13.79	15.12	11.57	12.32	12.56	13.33	14.66
	4H	12.61	13.32	13.61	14.32	15.66	12.15	12.86	13.15	13.86	15.20
	6H	12.99	13.64	14.00	14.65	16.00	12.53	13.18	13.54	14.19	15.54
	8H	13.08	13.70	14.10	14.73	16.08	12.62	13.25	13.64	14.27	15.62
	12H	13.12	13.71	14.14	14.73	16.11	12.66	13.25	13.68	14.27	15.64
4H	2H	10.85	11.56	11.86	12.57	13.90	10.51	11.22	11.52	12.23	13.57
	3H	12.69	13.28	13.70	14.31	15.67	12.30	12.89	13.32	13.93	15.28
	4H	13.38	13.92	14.41	14.95	16.33	12.99	13.53	14.01	14.56	15.93
	6H	13.87	14.34	14.91	15.39	16.76	13.48	13.94	14.51	14.99	16.36
	8H	14.01	14.45	15.05	15.49	16.88	13.61	14.05	14.65	15.09	16.48
	12H	14.07	14.46	15.13	15.52	16.91	13.66	14.06	14.72	15.12	16.51
8H	4H	13.56	14.00	14.60	15.04	16.43	13.21	13.65	14.25	14.69	16.08
	6H	14.17	14.53	15.23	15.61	17.00	13.81	14.18	14.88	15.26	16.64
	8H	14.37	14.69	15.44	15.76	17.16	14.02	14.33	15.08	15.40	16.81
	12H	14.49	14.77	15.56	15.83	17.28	14.12	14.40	15.19	15.46	16.91
12H	4H	13.55	13.94	14.60	15.00	16.39	13.20	13.60	14.26	14.65	16.05
	6H	14.19	14.51	15.26	15.58	16.98	13.85	14.17	14.92	15.24	16.64
	8H	14.41	14.69	15.49	15.76	17.20	14.07	14.35	15.14	15.41	16.86